2021
Impact Factor
5.64

THE AMERICAN JOURNAL OF MEDICAL SCIENCES AND PHARMACEUTICAL RESEARCH

Crossref doi
10.37547/TAJMSPR

Volume
03

THE AMERICAN JOURNAL OF MEDICAL SCIENCES AND PHARMACEUTICAL RESEARCH

(TAJMSPR)
SJIF-5.64
DOI-10.37547/TAJMSPR

Volume 3 Issue 02, 2021

ISSN 2689-1026

The USA Journals, USA
www.usajournalshub.com/index.php/tajmspr

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Publisher Address: 304 S. Jones Blvd #5245 Las Vegas, NV 89107 USA

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The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 13, 2021 | **Pages:** 1-9
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-01

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

Journal Website: http://usajournalshub.com/index,php/TAJMSPR

Research On The Choice Of "Ambronat" Syrup Technology

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ABSTRACT

This article is devoted to the study of factors influencing quality indicators in experimental research (identification - analytical) and in determining the quality of the finished product. Dedicated to the research on the selection of the composition of "Ambronate" syrup, it contains the results of research on the selection of excipients and technology, as well as the quality of the finished syrup.

KEYWORDS

Syrup, organoleptic, critical stages, technological, bioactive, specification, pH environment, ingredient, temperature, organoleptic, critical stage.

INTRODUCTION

One of the main tasks facing local pharmaceutical scientists today is to reduce the cost of development and production of new drugs, which in turn will replace import-substituting drugs with local raw materials, improve existing forms of generic drugs that are widely used in practice.

Ambroxol has a complex effect. Therefore, it has a serolytic effect on the secretion of bronchial glands. Ambroxol determines the function of the serous and mucous glands in

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IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

the bronchial mucosa, and activates the product of the serous component. This, in turn, is a much-needed effect in chronic lung disease. In addition, ambroxol normalizes the excretion of bronchial secretions. In addition, ambroxol regulates airway protective factors.

According to the literature, sucrose, glucose, fructose, sorbitol, mannitol, maltitol, xylitol are used as the basis of syrup in the preparation of the recommended syrup. Preservatives (alcohol, nipagin, nipazole, sorbic acid, etc.), stabilizers, corrigents are also added to the syrups as needed.

Based on the above, we conducted research on content selection based on three different methodological approaches. These are: information-theoretical, the results of personal research and identification-analytical.

Preliminary research (informational-theoretical) was devoted to the analysis of the literature on the prevalence of upper respiratory diseases and drugs used in their treatment in order to determine the current situation and research plans for the selection of ingredients for syrup. In this direction (individual research) was devoted to the selection of specific content and technology.

RESULTS AND DISCUSSION

The research was conducted on the selection of the technology of "Ambronate" syrup. The dose of ambroxol hydrochloride in the recommended syrup was selected on a volume scale. The maximum dose of ambroxol hydrochloride is 10 ml 3 times a day for adults and children over 12 years, 5 ml 2-3 times a day for children from 6 to 12 years; 2.5 ml (1/2 teaspoon) 3 times a day for children from 2 to 6 years; Children under 2 years of age are instructed to take 2.5 ml (1/2 teaspoon) 2 times a day.

Ambroxol should be taken with a large amount of fluid after a meal, which leads to an increase in the mucolytic effect of the drug. The duration of treatment is 4-14 days. In this case, a dose of 15 ml (one tablespoon) was selected and recalculated to the next 100 ml. 0.3 g of ambroxol hydrochloride was obtained, taking into account the storage of 15 doses of 100 ml of syrup.

The first stage of research in the technological process was focused on the preparation of simple syrup. The technology of "Ambronate" syrup is as follows: in a pot for boiling syrup is poured purified water and heated to a temperature of 50-60 ° C, and the required amount of sugar is added, stirring constantly. The speed of the mixer is taken as 30-40 per minute. It takes 30 minutes to make a simple syrup. The readiness of the syrup is determined by determining its concentration. The concentration of normal syrup is determined using a refractometer. Then add the required amount of sodium benzoate to the finished syrup. The amount of sodium benzoate was given above and it was around the percentage given in the literature and the remaining ingredients were added. The mixer speed was set at 60 rpm. Cool the syrup to 50 ± 3 °C (SPh XIII), stirring for 20 minutes. Ambroxol hydrochloride is then dissolved in ethyl alcohol and added to the solution and mixed well. The prepared syrup is filtered.

It is known from the literature that there are stages of the process that require special attention in the stages of preparation of syrup. Therefore, we studied the issue of prevention of possible adverse processes that may occur in the technological processes of "Ambronate"

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IMPACT FACTOR 2021: 5. 64
OCLC - 1121105510

syrup obtained in the proposed composition and technology. The critical stages of the technology of obtaining "Ambronate" syrup include the fact that the pH is not at the required level of the environment, temperature, speed of rotation of the mixer, microbiological purity. The results of the problematic stages of the proposed syrup are included in the commentary. Here are the events that can occur in critical processes. For example, in the preparation of ordinary jam, the sugar in the jam may caramelize due to the rise in temperature. In the process of obtaining "Ambronate" syrup, high concentrations of sugar slow down the dissolution of the main, ie bioactive and excipients, as well as the role of the environment in this process, the acidic environment can lead to inversion of sucrose, and in this process the dose uniformity can change.

In addition to the above, in several processes of making syrup, for example, sanitary preparation of production, preparation of raw materials, simple syrup, "Ambronate" syrup and packaging may lose microbiological purity of syrup, change the color and smell of syrup, change the taste. . It is also possible for the syrup to fade and even to sink. Therefore, special attention should be paid to the norms of these critical processes.

The critical stages of the technology of "Ambronate" syrup are given in Table 1.

Critical of the technology of "Ambronate" syrup lines

Mode	Name of technological stages	NoteИзох
Temperature mode	TJ 4. Boil the sugar syrup	Heating leads to caramelization of the syrup
The amount of sugar in the jam	TJ 5. Getting “Ambronate” syrup	High concentrations of sugar slow down the dissolution of excipients
pH environment	TJ 5. Getting “Ambronate” syrup	An acidic environment leads to the inversion of sucrose
Mixer rotation indicator	TJ 5. Getting “Ambronate” syrup	In syrup, the dose affects the uniformity indicator

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Microbiological cleanliness	YI 1. Sanitary preparation of production YI 2. Preparation of raw materials TJ 3. Get a simple syrup TJ 5. Getting "Ambronate" syrup QYoJ 6. Packaging and packaging	Microbiological purity is lost. Syrup color, smell. The taste varies. Syrup thickens, sediment is formed.

Evaluation of the quality of ambronat syrup

The quality of the syrup obtained in the proposed composition and technology was studied in accordance with the requirements for syrups in the methods given in SPh XIII. Qualitative indicators such as appearance, authenticity, density, pH of the syrup, foreign substances in the syrup, microbiological purity and quantitative analysis were studied. The amount of the recommended syrup poured into the packaging was also studied.

The next stage of research was devoted to the study of the organoleptic properties of the prepared syrup. In this case, the assessment was carried out on a 100-point scale.

The results obtained are given in Table 2.

Organoleptic properties of "Ambronate" syrup study results

Appearance	**Grade**	**Colour**	**Grade**	**Taste and smell**	**Grade**	**Total score**
A clear, viscous liquid	100	white	100	Sweet delicious, orange scented	100	100

From the obtained data, it is clear that the syrup "Ambronate" obtained in the proposed composition and technology is at the level of demand for organoleptic indicators.

In subsequent studies, the appearance, authenticity, density, pH environment, foreign substances in the syrup, microbiological purity and quantitative analysis of the recommended

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IMPACT FACTOR 2021: 5. 64
OCLC - 1121105510

syrup were studied in the methods given in XI SPh.

The quality indicators of the recommended "Ambronat" syrup are given in Table 3.

Evaluation of the quality of Ambronat syrup

The indicators studied	**Specification (Norm)**	**The results obtained**
Appearance	Sweet, orange-scented, clear, sticky liquid	Fits
Reality	1. The main stain on the chromatogram of the test solution should be in line with the standard solution of ambroxol hydrochloride. 2. Chloride-specific reaction. 3. The reaction specific to primary amines. 4. The test solution should be consistent with the working solution of the main peak of propylene glycol on the chromatogram and held for 5 min. 5. Specific reaction of benzoate ion 6. Specific reaction to ethyl alcohol.	Fits Fits A yellow spot formed 4.5 minutes Pink - yellow sediment was formed A pale yellow precipitate formed
Density	1,200 to 1,240 g / cm3	1228 g / cm3

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OCLC - 1121105510

pH environment	5,0 - 7,5	6,3
Substances	In addition to the main stain, up to two more spots are allowed on the test solution chromatogram. However, they should not be larger than the standard solution stain of Ambronate hydrochloride (each foreign substance should not be larger than 0.5%). Also, only one stain is allowed on the starting line. However, they should not be larger than the stain of a standard solution of ambroxol hydrochloride (each foreign substance should not be larger than 1%).	0,38% 0,89%
Filled volume in the package	The volume of the package can be deviated from ± 3% for 50 ml, 90 ml and 100 ml of solution, and ± 1.5% for 200 ml.	OST 64-492-85.
Microbiological cleanliness	3A Category	At the level of demand

Quantitative analysis: -Ambroxol hydrochloride	0.0027g to 0.0033 g per 1 ml of preparation	0, 0029 g
- Sodium benzoate		0,0050 g

The fact that the criteria presented in Table 3 and the results obtained are at the level of demand indicates that the content and technology we are recommending have been chosen correctly.

CONCLUSIONS

The quality of the syrup obtained in the proposed composition and technology was studied in accordance with the requirements for syrups in the methods given in DF XIII. Qualitative indicators such as appearance, authenticity, density, pH of the syrup, foreign substances in the syrup, microbiological purity and quantitative analysis were studied. From the obtained data, it is clear that the "Ambronate" syrup obtained in the proposed composition and technology is at the level of demand for organoleptic characteristics, and a specific technology was selected.

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The American Journal of Medical Sciences and Pharmaceutical Research (ISSN – 2689-1026)
Published: February 20, 2021 | **Pages:** 10-12
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-02

IMPACT FACTOR 2021: 5. 64
OCLC - 1121105510

Journal Website: http://usajournalshub.com/index,php/TAJMSPR

Medicinal Plants - Big Plantago (Planto Major)

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ABSTRACT

The article provides information about the botanical classification, composition, medicinal properties and collection procedures of the medicinal plant - the- Big Plantago

KEYWORDS

Phytotherapy , rhizome, simple corn, pectin, gastritis, bronchitis

INTRODUCTION

Nowadays , more attention is paid to the protection of medicinal plants, the rational use of natural resources, the establishment of plantations for the cultivation of medicinal plants, because phytotherapy or herbal treatment has been found to be one of the most ancient branches of medicine. The beneficial properties of medicinal plants have been used by humans for centuries.

One of the most important medicinal plants for human health is the Planto major, which belongs to the Plantaginasease family. more than 150 species of this family have now been identified by botanists. They grow mainly in

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temperate and subtropical zones of Eurasia, the African continent, and North and South America. In many countries, the locals have given the plant names such as Babka, Traveler, Sevenzhilnik, Companion, Triputnik, Dorozhnik, Rannik, Poreznik shortly the characteristics of the plant.

MATERIALS AND METHODS

This medicinal plant grows in almost all regions of the country on roadsides, fields, arable lands, meadows, forest edges, ditches and abandoned wetlands. Although - Big Plantago grows well in all types of soils, it grows well only in fertile soils with sufficient moisture and gives high yields. Big Plantago is a perennial, short, and thick-rooted herbaceous plant. On the upper side of the rhizome (above the ground) grow long, banded root balls, and on the lower side (underground) grow many small roots. The rhizomes are broadly elliptical or broadly ovate, flat-edged and large. Flower axis one or more, hairless, height 10-45 cm. The flowers are collected in a simple spike, small and inconspicuous. The inflorescence is cut into 4 pieces, the inflorescence is light brown, 4 bo lacquered, paternal four, maternal node two-chambered, located above.

A Big Plantago is pollinated by wind. It blooms from the second decade of May to September. The seeds ripen in late August and September. Up to 15,000 seeds are sown in a single plant. Seedlings of Big Plantago are usually very small and can die quickly due to lack of moisture and abundance of weeds. At the beginning of the growing season, the plant forms a set of leaves on the surface and then forms one or more inflorescences up to 50 cm in height.

The beneficial properties of the plant Planto major have been known for thousands of years and are a storehouse of nutrients. Big Plantago leaves contain up to 20% pectin, large amounts of vitamins (groups A, K, and C), organic acids (benzoic, salicylic, lilac, vanilla chlorogenic, neochlorogenic, caffeine, etc.)Contains steroids, flavanoids, saponins, yellow and bitter substances, polysaccharides and many macro and micronutrients.

The leaves of the great dandelion have wound healing, disinfecting, and anti-inflammatory properties. Infusions made from the leaves have an anti-allergic effect, improve gastrointestinal function, increase the secretion of gastric juice and increase the acidic environment in it, increase the secretion of bronchial glands. Big Plantago mixture is also used as an adjunct in the treatment of tuberculosis, whooping cough, bronchitis, chronic gastritis, peptic ulcer and duodenal ulcer. Big Plantago is part of many herbal medicines, which are also used to make cough teas. This plant has a calming effect, as well as a emollient and expectorant. Freshly cut Big Plantago leaves are usually used for wounds, bruises and burns. They are also used against acne, boils, rashes and insect bites.

In inflammation of the eyes, a mixture of dandelion is used to wash them. The plant has also been shown to reduce cholesterol levels in the human body and reduce the spread of aortic arteriomatosis. Big Plantago can be used as a moisturizer for skin and hair care. Compressors for medicinal baths and kalius are made from a mixture of zubturum to get rid of cracks and stains on the soles of the feet.

Harvesting of the leaves of the medicinal plant Plantago major (Plantago major) should be carried out during its flowering period (May to

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August). It is recommended to cut with a fork or a knife, without damaging the leaves and flowers of the plant. Collection near large highways, railways, industrial plants and buildings is not recommended as this plant absorbs toxins and harmful substances perfectly.The collected fleas are clean, healthy, do not retain signs of disease and are not damaged by insects must be.

Collected plants are dried in the sun in a thin layer or in a well-ventilated, dry room, constantly turning and rotating. The leaves are dried until they turn brown-green. Drying is stopped as soon as the leaf veins are brittle. After the drying process, sort the raw materials; it is recommended to remove yellowed and damaged ones. Dried herbs should be stored in glass jars, paper bags or dry and moisture-proof containers. The flowers and leaves of Plantago major L., a perennial plant that grows wild and is grown by humans, are used as medicine and medicinal raw materials.

CONCLUSION

To recapitulate, the big plantago is a medicinal plant that has a positive effect on human health, it contains a large number of vitamins, organic acids, steroids, flavanoids, polysaccharides and many macro-and micronutrients. It is recommended to study the properties of this plant and to establish its production on a large scale as a medicinal raw material.

Due to the fact that the cultivation, care and harvesting of large dandelions is not a difficult task and high yields, it is advisable to propagate this plant. and a lot of cultivation work is underway.

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The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 20, 2021 | **Pages:** 13-30
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-03

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

Journal Website: http://usajournalshub.com/index,php/TAJMSPR

Comparative Characteristics Of Surgical Treatment Methods For Patients With Nasal Septum Deviation

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ABSTRACT

The methodological recommendation presents a comparative characteristic of surgical methods of treatment of deviation of the nasal septum. Deviation of the nasal septum occurs in the cartilaginous and bone regions, both separately and in both simultaneously. Deformations can be of different nature (bend, crest, spike) and localization. They are one and two-sided. Spines and ridges are more often localized at the junction of the quadrangular cartilage and the perpendicular plate, ploughshare, and the crest of the upper jaw ("growth zone"). Less often, the upper sections of the perpendicular plate and the rear section of the ploughshare are deformed. For traumatic deformities, characteristic bends with acute angles. Often, after injury, there is a displacement of the anterior edge of the quadrangular cartilage in the form of its subluxation. The deformation of the cartilaginous part of the external nose in patients under our supervision was caused by the deviation of the nasal septum. There were no patients with deformity of the nose who would have been indicated for surgical intervention on the cartilage of the external nose. When correcting the deformity of the external nose in patients, we used an exclusively closed technique of intervention with a transseptal access, and, if necessary, access under the upper lip, which allowed us to obtain a good cosmetic effect and minimize traumatic complications after surgery.

KEYWORDS

Deviation of the nasal septum, submucosal resection, septoplasty, quadrangular cartilage.

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INTRODUCTION

Despite a number of reports on the curvature of the nasal septum in newborns, it should be noted that in early childhood, its deformity, as a rule, is absent [1,2,3,4]. The frequency of this pathology of the nasal septum increases in proportion to the age of the person, and is much more common in boys. So, among 180 children with deformities of the nasal septum aged 5 to 15 years who were examined and treated by the authors, there were 81% of boys, and only 19% of girls.

Curvature of the nasal septum occurs in the cartilaginous and bone regions, both separately and in both simultaneously [5,6,7]. Deformations can be of different nature (bend, crest, spike) and localization. They are one and two-sided. Spines and ridges are more often localized at the junction of the quadrangular cartilage and the perpendicular plate, ploughshare, and the crest of the upper jaw ("growth zone"). Less often, the upper sections of the perpendicular plate and the rear section of the ploughshare are deformed. For traumatic deformities, characteristic bends with acute angles [4]. Often, after injury, there is a displacement of the anterior edge of the quadrangular cartilage in the form of its subluxation.

Long-term difficulty in breathing, which occurs in early childhood, leads to a violation of the development of the face, namely, it becomes elongated and narrow, flattened from the sides, the hard palate forms a high Gothic palate, the alveolar arch lengthens, the development of teeth is disturbed, the lower jaw droops, the mouth constantly half open, nasolabial folds are smoothed out [8,9,10,11].

Submucosal resection of the nasal septum began to be performed since 1882 by Ingals in Chicago and Hartmann, Peterson, Krieg in Germany, and it was performed in children (cited by G.I. Piskunov and S.I. Piskunov, 2006). At the beginning of the twentieth century, submucosal resection of the nasal septum was widely used according to the methods of Freer (1902) and Killian (1904).

I.A. Voyachek and M.G. Dangulov developed a number of economical techniques for operations on the nasal septum: "mobilization", "partial submucosal resection", "circular resection", "redressing", "disc method". These techniques made it possible to perform operations on the nasal septum, almost completely preserving the support structures of the nose. Technique for performing septoplasty according to V.Y. Voyachek is as follows. First, a skin incision is made in the anterior part of the septum, soft tissues are exfoliated from the curvature point closest to the nostril on the convex side, and the quadrangular cartilage is opened without damaging the mucous membrane on the other side of the septum. Next, several cuts are made in the cartilage in the form of a circle or polygon, thereby part of the cartilage becomes mobile and hangs on the mucous membrane of the opposite side. Then, with the help of a raspator, a similar movable disc is formed from the opposite side in deeper bone regions [12]. In case of curvatures in the lower parts, the mucous membrane peels off from the lowermost part of the curvature and is separated from the bottom of the nose with a chisel so that a disc is formed connected with the soft tissues of one side. If necessary, additional discs are formed, which make the septum pliable, and it is easily installed in the middle position [13,14,15].

Cottle outlined his method for conservative septoplasty. The technique for performing

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2021: 5. 64
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conservative septoplasty is as follows: an autopsy is performed on the left, stepping back 1–2 mm from the caudal edge of the cartilage, the perichondrium dilator exfoliates along the entire length of the septum to the anterior wall of the sphenoid sinus, without going down below the wing of premaxili (this is how the anteroposterior left upper tunnel is formed). Then, along the base of the septum under the wing of the premaxil, an anteroposterior inferior tunnel is formed. The connective tissue membrane between the two tunnels is dissected and a wide access is formed to the left surface of the septum. If this gives access to distortion, it is corrected. The cartilaginous septum is separated from the premaxil. The cartilage is dissected perpendicularly, leaving 2-3 cm from the caudal edge, to the opposite side, without injuring the mucous membrane of the opposite side [16]. Correction of the bony part of the septum is performed. To form a wider access, the right anteroposterior upper and lower tunnels are formed, which are connected to each other [17,18,19]. In this case, only curved parts are removed with minimal resection.

MATERIAL AND METHODS

In accordance with the purpose of the study and to fulfill the assigned tasks, clinical studies were carried out in 160 patients with curvature of the nasal septum, who were hospitalized in the ENT department of "QO'QON DUNYO JAVOHIRI" for 2017-2020. All patients underwent a comprehensive examination, including the collection of complaints, examination of the ENT organs, endoscopy of the nasal cavity and X-ray examinations.

RESULTS AND DISCUSSION

Preoperative preparation of patients with nasal septum curvature. When preparing a patient for surgery, the general somatic state was assessed, blood pressure, body temperature, clinical and biochemical blood and urine tests were checked. Previous illnesses were taken into account (the operation was performed 1 month after ARVI and 6 months after childhood infections). A thorough sanitation of foci of chronic infection was carried out. They made sure that there were no inflammatory processes on the skin of the face.

Patients with chronic decompensated tonsillitis and chronic adenoiditis underwent tonsillectomy and adenotomy, and septoplasty was planned no earlier than a month later. If the parents refused to have tonsillectomy, conservative treatment of chronic tonsillitis was carried out, and a month after improvement of the condition, septoplasty was performed. If patients with nasal septum curvature and grade II-III adenoid vegetations were present, septoplasty and adenotomy were performed simultaneously.

The operation began with an adenotomy. This sequence promoted hemostasis in the nasal part of the pharynx. In children with insignificant deformity of the nasal septum or under the age of 7 years, as a rule, adenotomy was performed and subsequently, the dynamics of nasal breathing was assessed over the next 1-2 years. The tactics regarding septoplasty and the timing of its implementation were determined individually.

We performed reconstructive surgery on the nasal septum, depending on the indications, from the age of 7. However, in some cases,

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given the degree of difficulty in nasal breathing and the possibility of developing diseases that may be caused by a curvature of the nasal septum, septoplasty should be recommended for younger children. In this case, it is necessary to focus not only on the patient's age, but also on existing or possible pathological changes in the body in the future.

In patients with curvature of the nasal septum, deformity of the external nose, septoplasty and rhinoplasty were simultaneously planned.

In the presence of hypertrophy of the turbinates on the side opposite to the curvature of the nasal septum, it was planned to perform ultrasonic disintegration of the turbinate after the completion of septoplasty.

1-2 weeks prior to septoplasty, ascorutin and calcium gluconate were prescribed to increase blood clotting. Dicinone was administered two hours before the operation. Surgical intervention was performed under general anesthesia.

Techniques for surgical interventions on the nasal septum.

According to our method, after premedication, under general anesthesia with infiltrative anesthesia of the nasal septum mucosa using Sol. Novocaini 1% - 10.0 on a deviated nasal septum. With the help of a scalpel, retreating 0.5 cm from the entrance and from the back of the nose, a vertical incision is made in the curved part of the nasal septum, and then the incision is extended in the horizontal direction. In this case, the curved part of the mucosa, submucosa and cartilage are dissected simultaneously, without separating the mucous membrane from the perichondrium and without damaging the perichondrium and the mucous membrane of the opposite side. Then the nasal cavity is inserted into the branch of Killian's nasal speculum and redressing is done on the opposite side of the nose and anterior nasal tamponade is performed or a polyethylene tube (splint) is placed. After 2 days, the tampons are removed, and the tube is left for 7-10 days.

With the help of ultrasound, the technique is the same and an ultrasonic scalpel is used. According to our technique, the incision is prolonged and horizontally, this facilitates the mobilization of the septum quite easily and painlessly. In addition, an unseparated mucous membrane with cartilage is not observed after an operation complication such as perforation of the mucous membrane of the nasal septum, hematoma of the nasal septum, and others. Wound healing occurs rather quickly. The operation time is short. Using an ultrasonic scalpel, the operation is performed with little trauma and little blood flow. Bed days after surgery are shortened by 2-4 days. Our method of operation can be performed simultaneously on the nasal septum and paranasal sinuses (endonasal sinusitis, frontotomy), on the ocular canal (dacryocystorhinostomy), nasopharynx (adenotomy) and ear (antrotomy, mastoidotomy).

Correction of curvature of the bony structures of the nasal septum.

The main method for correcting the curvature of the nasal septum in the bony part was its thinning up to 1–2 mm in thickness with the preservation of only the bone in the sagittal plane, drawn after redressing the midline. The operation was performed using a drill using appropriate burs and cutters, or a flat chisel. This technique allows in most cases to eliminate bone deformity and to preserve the

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bony base of the nasal septum in the sagittal plane passing through the midline (Fig. 3.1).

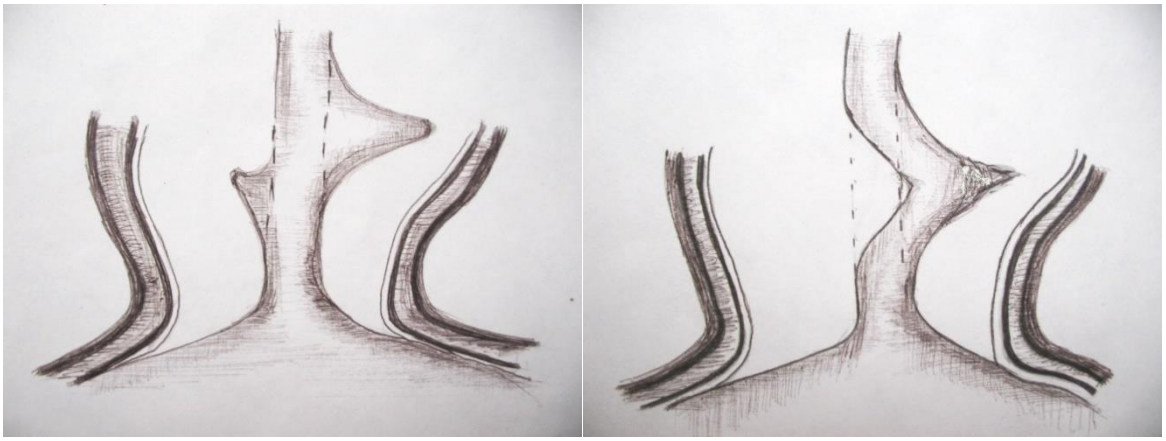

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Fig. 3.1. Correction scheme for bony deformity of the nasal septum (using a drill).

With a slight curvature of the ploughshare and other bony components of the nasal septum, as a result of the operation, as a rule, the preservation of the bone base in the sagittal plane, drawn through the midline, is achieved in all areas (Fig. 3.1 a). In the presence of spines and ridges with concave areas of the bone on the opposite side, after removal of the curved areas of the bone in the bone plate located in the midline, sometimes there were small holes (Fig. 3.1 b), which did not affect the results of treatment, since the bone framework was stored partitions.

If it was impossible to restore the bony part of the nasal septum while preserving its own tissues, for example, with a pronounced deviation of the share from the midline, the share was removed, and a plate made of quadrangular cartilage was implanted in its place. With a sufficient thickness of the cartilage, partial resection was performed, with the exception of areas in the dorsal and caudal regions with a width of at least 1 cm. 2 or 3 plates of uniform thickness were made from the removed cartilage using a special device (Fig. 3.2), and the cartilage was cut in the sagittal plane. In one case, cartilaginous plates were made from the autoreb of a patient who had a curvature of the nasal septum in the bony part, complete destruction of the quadrangular cartilage with drooping of the nasal tip, and saddle deformity of the external nose after an abscess of the nasal septum.

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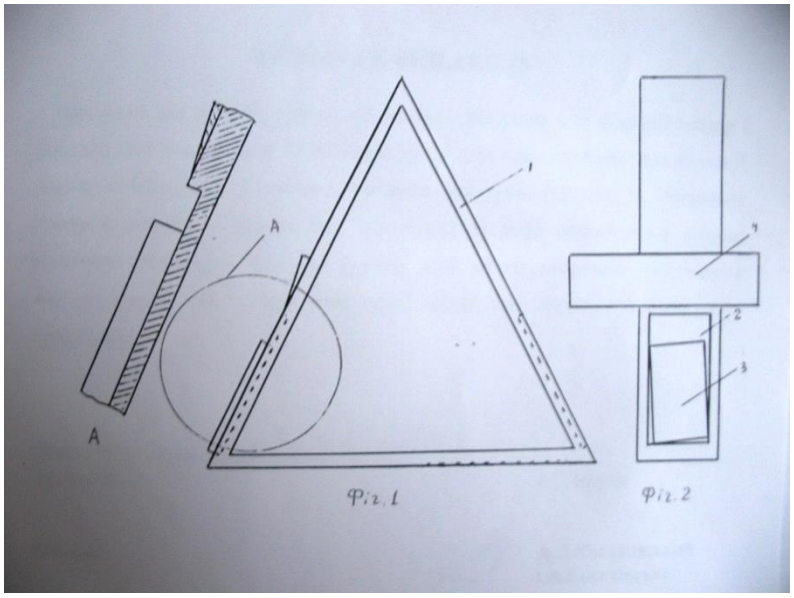

Fig. 3.2. Cartilage dissection device.

The device has the shape of a regular triangular prism (Fig. 1), on the outer surface of each of the faces (1) of which a rectangular groove (2) of various depths (0.5, 0.8 and 1 mm) is made.

The device is used as follows.

The removed cartilage (3) is placed in the groove (2) in such a way that the lower edge of the cartilage is pressed against the lower wall of the groove, and the inner surface touches the bottom of the groove. The area of the cartilage is smaller than the area of the groove, therefore, to fix the cartilage, it is placed so that the lateral edges touch the side walls of the groove. This is achieved by rotating the cartilage in the groove.

To dissect the cartilage, a knife (3) made in the form of a right-angled triangle is used, which is placed on the working edge of the prism, tightly pressing against it and moved towards the cartilage.

Since the device has the shape of a regular triangular prism, placing it with one side on a horizontal surface, the working surface will be located at an angle of 600 and this ensures reliable fixation of the cartilage to the bottom of the groove during its opening due to gravity.

The length of the knife blade, which significantly exceeds the height of the facet of the prism and its shape in the form of a right-angled triangle, makes it possible to fix in one plane and thereby obtain plates of equal thickness throughout, which is equal to the depth of the groove. The choice of this or that face of the prism, as a working one, depends on the thickness of the cartilage plate and the specified thickness of the plate that will be manufactured.

For clarity, we present the results of the manufacture of plates using various tools (table 3.1). The thickness and shape of the cartilage were selected similarly in both cases. The difference was that in the first case, a

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scalpel and a spatula (basic object) were used to make cartilage plates, and in the second, the proposed device was used.

Table 3.1

The results of the manufacture of cartilage plates using various instruments

Indicators	Prototype (base object) n = 80	The proposed device n = 80	P
	M±m	M±m	
Plate making time (sec.)	35±1,232	7±0,411	< 0,01
Cartilage plate manufacturing quality:			
- flat plate surface	-	10	
- uneven plate surface	10	-	
- the thickness of the plate is the same throughout	1	10	
- the thickness of the plate is not the same throughout	9	-	
- the plate breaks easily when bent	4	-	
- the plate retains elasticity when bending	6	10	

From table 3.1 it can be seen that the time for making a plate from cartilage, when using the proposed device, decreases 5 times. In addition, the plates are made of significantly higher quality, namely: with a flat surface, of the same thickness, while maintaining the elasticity of the cartilage when it is bent.

The resulting thin and equal in area plates (from the removed cartilage) were implanted in place of the removed quadrangular cartilage and removed bony structures of the nasal septum: a ploughshare, the lower part of the perpendicular plate of the ethmoid bone, the crest of the palatine process of the upper jaw (Fig. 3.3).

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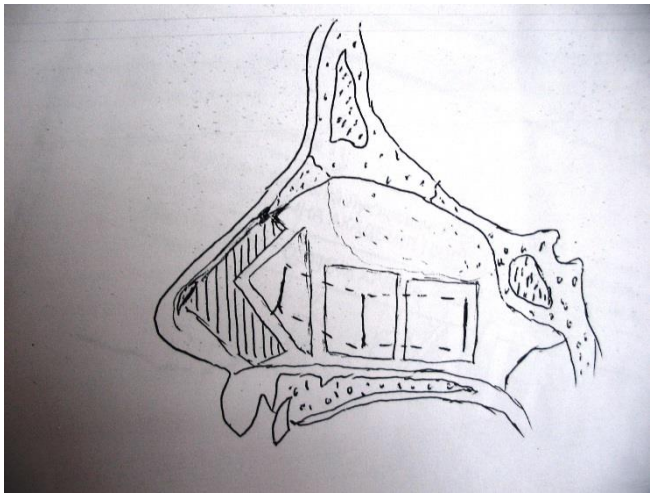

Fig. 3.3. Method of septoplasty with reimplantation of cartilage plates.

When the thickness of the quadrangular cartilage was insufficient to restore the elasticity of the nasal septum in the bony part, an oval-shaped plate was cut out on the lower leg in the posterior region of the cartilage and moved to the place of the removed ploughshare (Fig. 3.4).

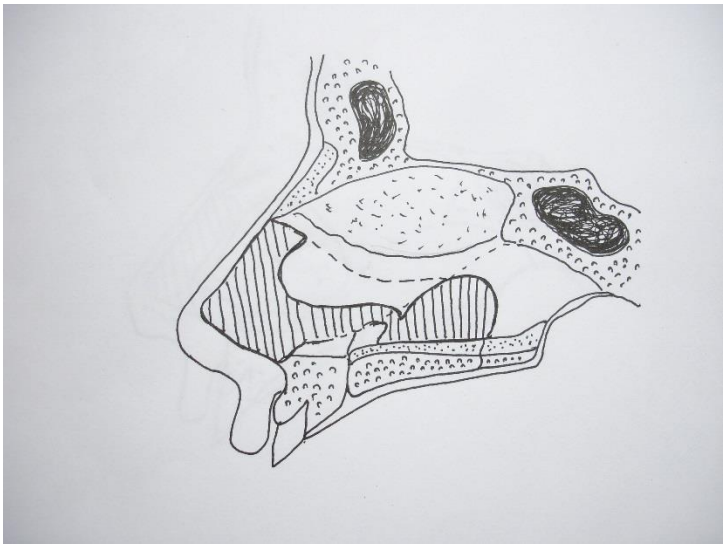

Fig. 3.4. Method of septoplasty with cartilage displacement on the pedicle.

The reimplanted cartilage plates were fixed with U-shaped catgut or vicryl sutures in such a position to achieve contact with the bone. At the same time, the experimental studies of Melanin were taken into account, which showed that if a cartilage graft placed under the periosteum and affects the bones of the recipient, then it grows together with it, stimulates osteogenesis and is replaced by bone tissue.

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The curvature of the crest of the palatine process of the upper jaw was eliminated using a drill (Fig. 3.5).

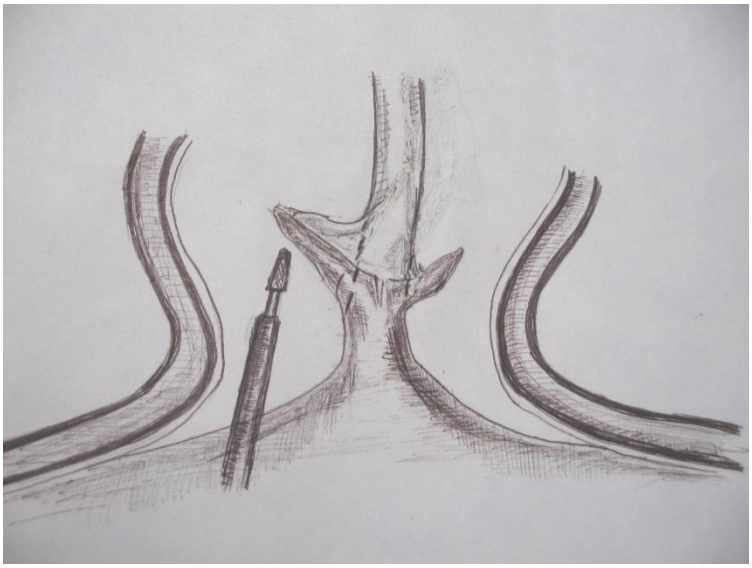

Fig. 3.5. The scheme for eliminating bone deformity in the anterior part of the nasal septum.

At the same time, special attention was paid not to damage the a.incisivae canal. In a number of cases, the connections between the quadrangular cartilage and the crest of the palatine process of the upper jaw were preserved, in others, before the elimination of the bone curvature, the quadrangular cartilage was mobilized along the lower edge.

In one case, the curvature of the nasal septum was due to an atypical position of the tooth. Here is a description of this case.

Child B., 8 years old, was admitted to the ENT department on 11/12/2017 with complaints of difficulty in nasal breathing, frequent bleeding from the left side of the nose for a month. The general condition was not disturbed. With anterior rhinoscopy, a curvature of the nasal septum on the left in the form of a thorn was diagnosed, which was localized in the anterior part of the nasal cavity at a distance of 1.5 cm from the entrance to the nose and 0.5 cm from the bottom of the nasal cavity and rested against the inferior turbinate. The mucous membrane of the thorn was thickened and had vascular injection.

During the operation, after detachment of the mucous membrane together with the perichondrium and periosteum from the lower sections of the nasal septum, it was revealed that the thorn is a tooth, the root of which is located in the bony ridge of the palatine process of the upper jaw under the quadrangular cartilage of the nasal septum. The distal end of the tooth was directed up and to the left towards the left inferior turbinate

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and was completely covered with mucous membrane.

The tooth was removed with the help of an elevator (Fig. 3.6). Since the mucous membrane that covers the tooth was thickened and vascular injection took place, as well as taking into account the history of nosebleeds, part of the mucous membrane was removed and sent for histological examination, and the edges of the mucous membrane were sutured with catgut.

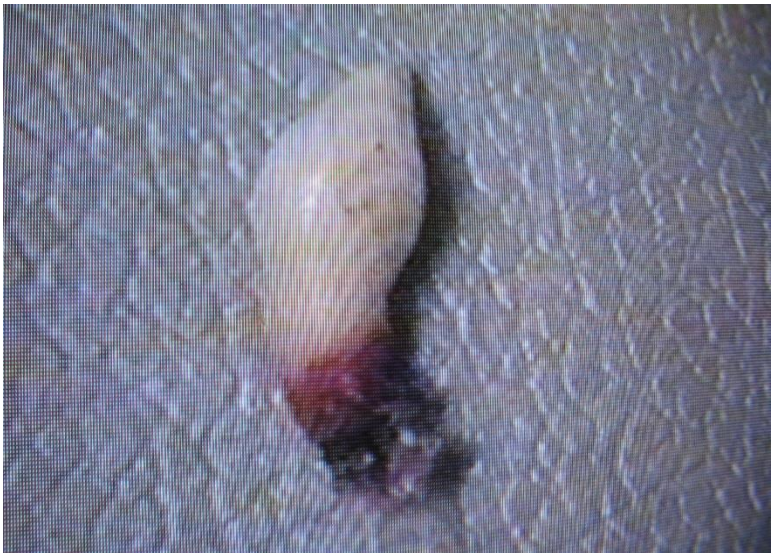

Fig. 3.6. An extracted tooth that is located in the thickness of the nasal septum.

According to the results of histological examination, the mucous membrane was a fibrous tissue with a large number of vessels and lymphoid infiltration, covered with stratified squamous epithelium.

As a result of the operation, the curvature of the nasal septum was eliminated, the patency of the nasal cavity was restored, and the nosebleeds stopped.

The peculiarity of this case is that the curvature of the nasal septum was due to the atypical location of the tooth and required a different approach to treatment.

Correction of curvature of the cartilaginous part of the nasal septum.

In the presence of curvature of the nasal septum in the cartilaginous part, the quadrangular cartilage during the operation was maximally preserved, removing only curved areas.

So, with a lumpy deformity, the cartilage was thinned, removing excess tissue while preserving the cartilage, which is located in the sagittal plane, drawn along the midline.

When the cartilage deformity was significant in a limited area in the form of a thorn or a small ridge, a part of the cartilage located outside the midline was removed. At the same time, sometimes in this area, after removing the cartilage, a small hole was formed, which did not affect the results of treatment, since the integrity of the mucous membrane was not

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excited during the operation, and the cartilage was almost completely preserved along the midline and provided elasticity of the nasal septum.

In most cases, cartilage curvature was localized in the lower part of the septum. In this case, only a part of the cartilage was removed, which deviated significantly from the midline. Since this deformity, as a rule, was combined with a significant curvature of the crest of the palatine process of the upper jaw, it was simultaneously thinned with preservation of the bone along the midline.

In some cases, it was possible to maintain the connection between the bone and cartilage, but in most cases it was necessary to mobilize the cartilage along the lower edge.

To prevent possible deformation of the nasal septum in the long-term postoperative period associated with displacement of the lower portion of the quadrangular cartilage, after eliminating the deformation of the quadrangular cartilage, we fixed its lower portion to the ridge of the palatine process of the upper jaw using sutures. In this case, on the concave side of the cartilage, parallel sections were applied to 2/3 of its thickness, and on the convex side, mucoperichondria peeling was avoided if possible (Fig. 3.7).

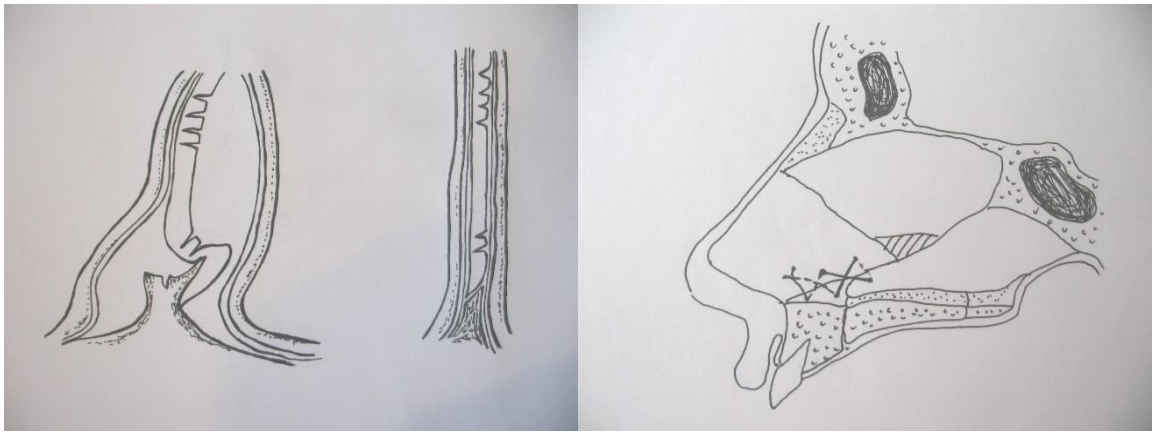

Fig. 3.7. Method of septoplasty for arcuate deformation of the cartilage of the nasal septum and in the form of a ridge in its lower part.

It is the preservation of the perichondrium on the convex side that facilitates the alignment of the cartilage (71, 192). When the mucoperichondria is detached from both sides, the straightening of the cartilage is not observed, and when mucoperichondria is detached, only on the convex side is an even greater deformation of the cartilage. The author argues that it is the perichondrium that plays the main role in the biomechanics of the cartilage and, during tension, contributes to its alignment.

In some cases, when the quadrangular cartilage was so deformed that it was not possible to preserve it, after its removal, except for strips 1 cm wide in the caudal region and 0.5 cm at the nasal dorsum, a plate was formed from the removed parts of the

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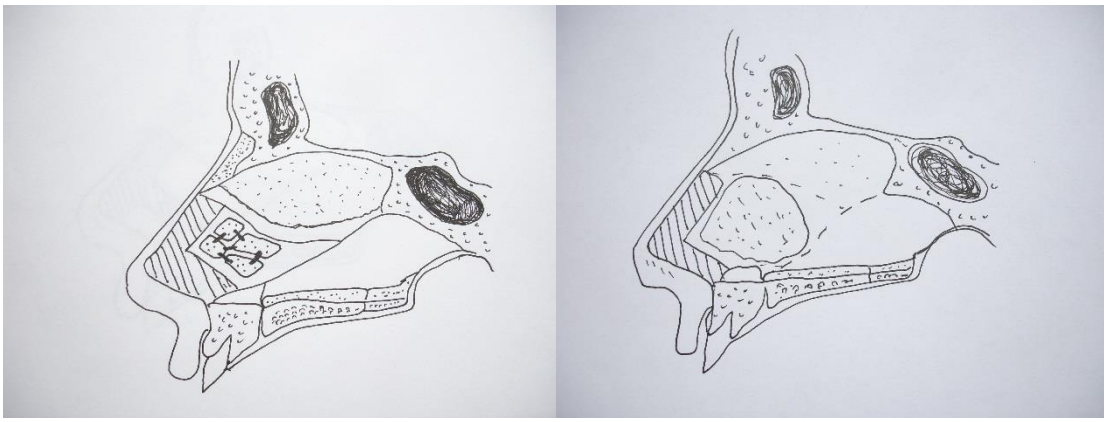
cartilage using interrupted sutures, which was reimplanted in place of the removed cartilage (mass 3.8 a), and in the case of its removal in one block, the curvature of the cartilage was eliminated by flattening it, after which it was reimplanted (Fig. 3.8 b).



a b

Fig. 3.8. Scheme of cartilage reimplantation after suturing individual fragments (a) and flattening it by flattening (b).

In the presence of subluxation of the quadrangular cartilage, the tactics of surgical treatment depended on the degree and form of its deformity. In patients with a slight deviation of the cartilage in the anterior part, its resection was performed in an area of several millimeters. In doing so, we took into account the recommendations of G.I. Piskunov and S.I. Piskunov and kept the resistance of the columella. In case of curvature of the quadrangular cartilage in only one plane (deviation to the right or left), the operation was performed according to the authors' technique (vertical section along the curvature line, removal of a narrow strip, transfer of the cartilage to the sagittal plane and fixation with sutures). With more pronounced deformity, the cartilage was removed in the anterior section with a width of 5 to 10 mm (in older children), and a straight cartilaginous plate taken from the posterior sections of the quadrangular cartilage was reimplanted in the place of the removed section (Fig. 3.9 a). In some cases, when there was a deformation of the twisted portion of the cartilage only in the middle and lower parts of it, resection of the cartilage was performed while maintaining the strip in the upper part of at least 5 mm wide, and to maintain the support of the columella, a cartilaginous plate taken from the parts of the quadrangular cartilage (Fig. 3.9 b).

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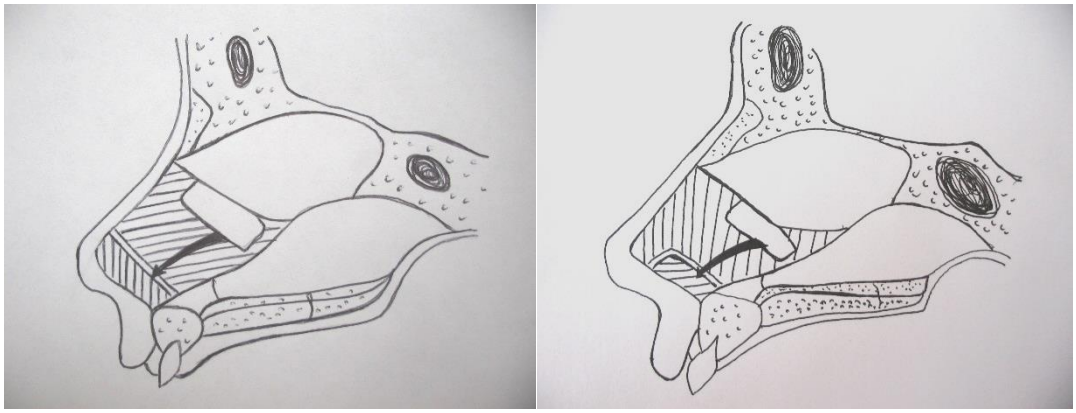

a b

Fig. 3.9. Septoplasty modifications in case of "subluxation" of the quadrangular cartilage.

In one case, when the anterior part of the quadrangular cartilage was curved at an angle of 180 ° and the cartilage itself was excessively elastic, the cartilage was dissected in the sagittal plane along the midline to create adequate support for the tip of the nose and maintain support for the columella, and then an additional plate was formed. cartilage up to 5 mm in width, which was hemmed with U-shaped catgut sutures to the anterior section of the quadrangular cartilage (Fig. 3.10). As a result, the thickness of the anterior part of the cartilage was doubled and its deformities were eliminated. During the operation, the size and shape of the nasal valve was taken into account.

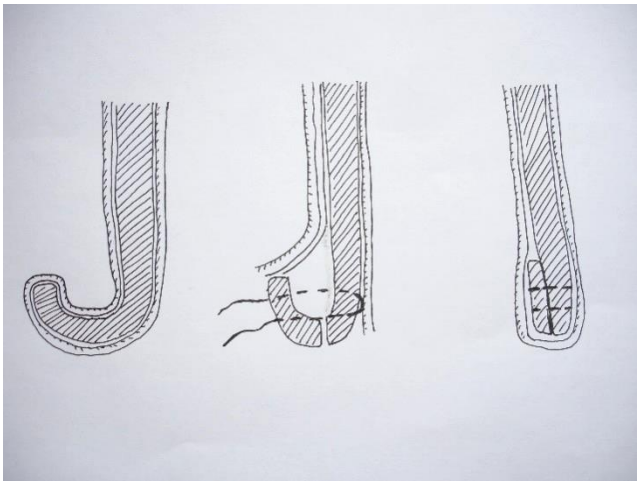

Fig. 3.10. Method of septoplasty for arcuate deformation of the anterior quadrangular cartilage (horizontal section).

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 20, 2021 | **Pages:** 13-30
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It should be noted that when isolating the quadrangular cartilage, its biomechanics were taken into account and the mucoperichondria were always exfoliated from the concave side and tried to preserve it on the convex side of the cartilage.

In order to prevent the formation of hematoma of the nasal septum in the postoperative period, careful hemostasis was performed, if necessary, using a diathermocoagulator. After cleaning the postoperative cavity on the mucous membrane of the nasal septum (from the side of the perichondrium and periosteum), step by step, starting from the posterior areas, Katsil glue was applied in the form of small drops at a distance of 7-10 mm from each other, followed by sequential comparison of the areas of the mucous membrane with each other or to the bone base and quadrangular cartilage and fixing them in a given position for 20-30 seconds (Fig. 3.11).

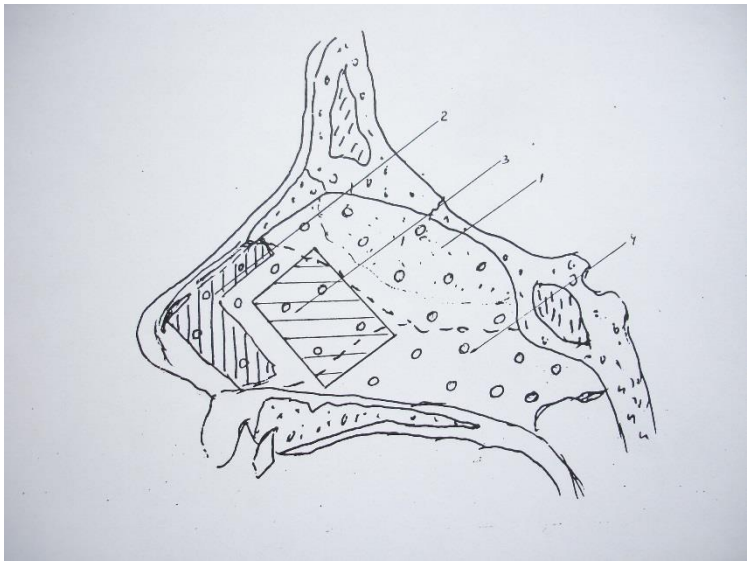

Fig. 3.11. Septoplasty method using "Katsil" glue.

In fig. 3.11 shows the scheme of applying Katsil glue. Drops of glue are applied to the bony part of the nasal septum (1), the preserved part of the quadrangular cartilage (2), the reimplanted cartilaginous plate (3) and the perichondrium and periosteum (4).

In some cases, when there was increased bleeding in the postoperative cavity and it was not possible to fix the mucous membrane sheets with glue, a round hole (2) with a diameter of 3-5 mm was made in one of the mucous membrane sheets (1), after which the mucous membranes the shells were fixed to each other with U-shaped seams (3) (Fig. 3.12).

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(ISSN – 2689-1026)
Published: February 20, 2021 | **Pages:** 13-30
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-03

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

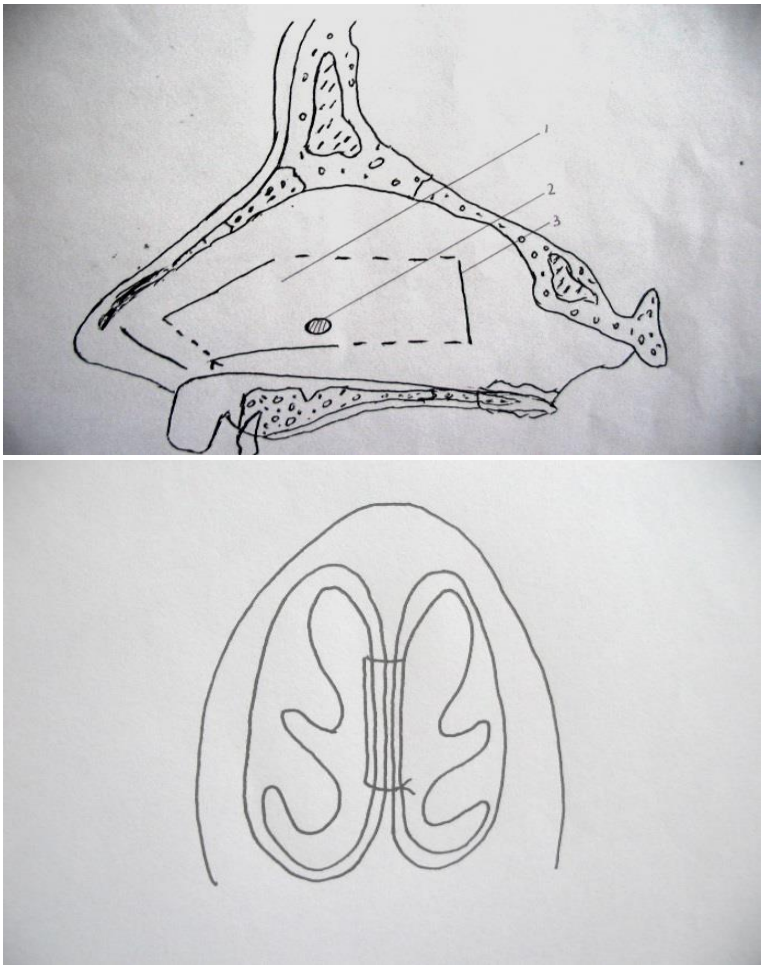

Fig. 3.12. Method for fixing mucous membrane sheets during septoplasty with increased bleeding.

A device by A.L. Kosakovsky or a straight needle with an arcuate curved proximal end. The latter has advantages, since, unlike needles with an arcuate bend, including at the distal end, the channel during the passage of the needle has not arcuate, but a rectilinear shape, which is especially important for fixing the cartilage in a given position. Unlike straight needles, the needle of this design allows you to make sutures not only in the front, but also in the back region of the nasal septum.

In 32 patients aged 12-47 years at the beginning of the study, due to severe deformity of the nasal septum, we had to perform a partial submucosal resection of the nasal septum.

At the end of the operation, anterior tamponade of the nasal cavity was performed. In this case, we used both traditional gauze swabs with 1% synthomycin liniment and swabs

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 20, 2021 | **Pages:** 13-30
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-03

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2021: 5. 64
OCLC - 1121105510

with hydroxylated polyvinyl acetate sponge ("Merocel" and "Entocel").

In 16 (14.6%) patients, the curvature of the nasal septum was combined with deformity of the external nose. In 14 cases, after the completion of septoplasty, rhinoplasty was performed using the closed technique.

In saddle deformity, the nasal dorsum was accessed through the anterior nasal septum. Using scissors, a tunnel was made under the skin, into which a plate (in most cases three-layered) made of quadrangular cartilage was subsequently placed. In one case, a cartilage implant was made from protocrill to correct the saddle deformity of the external nose. After the anterior section, the correct shape of the external nose was modeled and an external fixation bandage was applied.

The nasal tampons and outer dressing were removed at 5-6 days. During this time, patients were prescribed antibiotics.

In patients with scoliosis, deformity was eliminated after septoplasty and anterior nasal tamponade by mobilizing the bones of the external nose using the osteotomy method.

If it was necessary to use acute osteotomes, especially in case of tuberous deformity, access to the site of bone mobilization was performed through the lower Cottle tunnel or under the upper lip. The nasal dorsum was usually accessed transseptally in the anterior nasal septum.

CONCLUSION

Thus, when performing septoplasty in patients, it is advisable to use a tissue-preserving method of operations with preserving the skeleton of the nasal septum. After the elimination of the deformity of the nasal septum, when there was a displacement of the quadrangular cartilage, and its transfer to the median position, it is advisable to fix the cartilage to the bony part of the nasal septum along its lower edge, which contributes to its stabilization in the sagittal plane and allows to prevent the deviation of the cartilage from the median position to the postoperative one. period. The manufacture of cartilaginous plates to replace defects in the skeleton of the nasal septum is advisable to perform with the proposed device, which significantly reduces the time and improves their quality.

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Published: February 20, 2021 | **Pages:** 13-30
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The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 31-36
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-04

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

Journal Website: http://usajournalshub.com/index,php/TAJMSPR

Coronary Heart Disease

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ABSTRACT

The article covers the etiology, pathogenesis, classification, diagnosis, clinical picture and treatment of coronary heart disease, provides a literature review. Cardiovascular disease (CVD) represents the leading cause of death among women as well as men. The number of deaths due to CVD in women are greater than in men. There are significant gender-related differences concerning CVD.

KEYWORDS

Coronary heart disease, cardiovascular disease, ischemic heart disease, stress angina, myocardial infarction, stage, treatment, b-blockers

INTRODUCTION

Ischemic heart disease is a pathological condition that is characterized by an absolute violation of the blood supply to the myocardium, due to damage to the coronary arteries. At the moment, all over the world, cardiovascular diseases are in first place in terms of morbidity and mortality, among this nosology are common: coronary heart disease (IHD), chronic heart failure (CHF), myocardial infarction (MI), arterial hypertension (AH).

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 31-36
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-04

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2021: 5. 64
OCLC - 1121105510

Ischemic heart disease is the leading cause of death and disability. Mortality from ischemic heart disease (IHD) of the heart at the age of 25-34 years, is registered 10: 100,000 cases, and at the age of 55-64 years 1000: 100,000. In the Russian Federation, mortality from ischemic heart disease is much higher than in Europe and America, it is associated with the effectiveness of treatment, both surgical and therapeutic.

As a rule, men get sick much more often, than women. IHD its clinical manifestations occur when the degree of stenosis coronary arteries are 50% or more. Major developmental role other than stenosis coronary arteries, such factors play, emit modifying factors and non-modifying factors, modified ones include eating high-calorie and rich in fats, frequent alcohol consumption, smoking, physical inactivity, psycho emotional stress, non-modifying factors include concomitant diseases: bronchial asthma (BA), chronic obstructive lung disease (COPD), hypothyroidism, diabetes mellitus, cholelithias is age (over 55 years), abdominal obesity (BMI = 26), male

gender, genetic predisposition.

IHD is a very common disease, one of the leading causes of death, as well as temporary and permanent disability of the population in developed countries of the world. In this regard, the problem of ischemic heart disease occupies one of the leading positions among the most important medical problems of the XXI century.

In the 1980s, there was a declining trend in coronary artery disease mortality, but still in developed European countries it accounted for half of all deaths, while an unequal distribution among the contingent of people remained. different genders and ages. In the United States, in the 1980s, the mortality rate for men aged 35-44 was 60 per 100,000 population, and the proportion of men and women who died at that age was about 5: 1. By age 65-74, the overall mortality rate from CHD in both sexes exceeded 1,600 per 100,000 population, and the ratio of deaths between men and women in this age group decreased to 2: 1.

The fate of patients with coronary artery disease, which is a significant part of the contingent observed by physicians, depends largely on the adequacy of outpatient treatment, quality and timeliness of diagnosis of these clinical forms of the disease requiring emergency care. or emergency hospitalization of the patient.

According to European statistics, IHD and cerebral stroke account for 90% of the cardiovascular system , which characterizes IHD as one of the most common diseases.

Angina is chest tightness, tightness, pressure, or pain. This occurs when a portion of the heart muscle receives less oxygen than normal. Angina is a symptom, not a disease. This usually happens when one or more coronary arteries become narrowed or blocked due to ischemia. This is often a symptom of cardiovascular disease (CHD).Angina on its own is not life-threatening, but it can mimic the symptoms of a heart attack and is a sign of heart disease. If angina comes on suddenly, does not improve, or does not respond to rest or medication, seek medical attention.

Stable angina

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 31-36
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-04

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2021: 5. 64
OCLC - 1121105510

Stable angina occurs when the heart is working harder than normal, such as during exercise. Usually this takes about 5 minutes.It has a typical pattern and can be experienced by a person for months or years. Rest or medication often relieves symptoms.

Unstable angina

Unstable angina is irregular and usually occurs during rest. This is mainly caused by atherosclerosis, which prevents blood from reaching the heart.

The pain lasts for more than 5 minutes and may worsen over time. Rest and medication alone cannot improve symptoms.

Unstable angina may indicate a risk of heart attack. Anyone suffering from sudden angina should seek emergency care.

Microvascular angina can occur with ischemic microvascular disease (MVD). It affects the smallest coronary arteries.

In addition to chest pain, a person may experience the following:

- Fatigue and low energy
- Sleep problems
- Shortness of breath

Microvascular angina is more persistent than stable angina. This usually lasts more than 10 minutes and sometimes more than 30 minutes.

Angina variant

Angina variant is rare. Doctors sometimes call it Prinzmetal angina, and it can develop when the body is at rest, often at midnight or early in the morning.

This occurs when a spasm occurs in the coronary arteries. Possible stimuli include hypothermia, stress, medication, smoking, or cocaine use. This is a chronic condition, but medications can help manage it.

Myocardial infarction (MI), commonly known as a heart attack, occurs when blood flow decreases or stops reaching part of the heart, causing damage to the heart muscle. , arm, back, neck or jaw, most often it appears in the center or left side of the chest and lasts more than a few minutes, the discomfort can sometimes feel like heartburn, other symptoms may include shortness of breath, nausea, fainting. feeling cold sweat or tired. About 30% of people have atypical symptoms. Women often present without chest pain and, conversely, feel neck pain, arm pain or fatigue. About 5% of people over 75% have a history of symptoms with little or no symptoms; MI can cause heart failure, heart attack, cardiogenic shock, or cardiac arrest.

The most common cause of myocardial infarction is coronary artery disease. Risk factors include high blood pressure, smoking, diabetes, lack of exercise, obesity, low blood cholesterol, unhealthy diet, and excessive alcohol consumption. Complete occlusion of a coronary artery due to ruptured atherosclerotic plaque is usually the main mechanism of MI. Less common coronary artery spasms in myocardial infarction, which can be caused by cocaine, significant emotional stress (commonly known as Takotsubo syndrome or broken heart syndrome), a very cold, etc. electrocardiograms (EKG), blood tests, and coronary angiography. An ECG that records the electrical activity of the heart can confirm ST-segment elevation MI (STEMI) if ST-segment elevation is present. Common blood

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 31-36
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-04

IMPACT FACTOR
2021: 5. 64
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tests include troponin and less creatine. kinase MB.

Treatment of myocardial infarction is very important over time. Aspirin is an immediate treatment for suspected myocardial infarction. Nitroglycerin or opioids can help with chest pain; however, they do not improve overall results. Supplemental oxygen is recommended for patients with low oxygen levels or shortness of breath, and treatment for STEMI is aimed at restoring blood flow to the heart and includes opening the arteries and stenting or thrombolysis of subcutaneous coronary interventions (PCI).

If the block is relieved with medication, people with ST-segment elevation myocardial infarction (STEMI) are given blood thinning heparin, which provides additional PCI for those at high risk. Coronary artery bypass grafting (CABG) may be recommended instead of angioplasty for people with multiple ischemic heart disease and diabetes. After myocardial infarction, usually in combination with long-term treatment with aspirin, beta-blockers and statins, lifestyle changes are recommended.

In 2015, there were approximately 15.9 million myocardial infarctions worldwide, more than 3 million people had elevated ST-segment elevation, and more than 4 million people were diagnosed with STEMI. STEMI is twice as common in men as in women, and each has nearly a million people. In developed countries, the risk of death in people with STEMI is about 10%.

Age-specific MI rates declined globally in the 1990s and 2010s. In 2011, myocardial infarction was one of the five most expensive hospitalizations in the United States, with an estimated $ 11.5 billion in hospital admissions. Heart attack occurs when the heart muscle does not have enough blood or oxygen, such as when a blood clot develops from plaque in one of the coronary arteries. The formation of a blood clot is called coronary thrombosis. This clot, if it is big enough, can stop the supply of blood to the heart.

Symptoms of a heart attack include:

- Chest discomfort
- Mild or crushing chest pain
- Coughing
- Dizziness
- Shortness of breath
- A gray pallor in the face
- General discomfort
- Panic
- Nausea and vomiting
- Restlessness
- Sweating
- Clammy skin

The first symptom is usually chest pain that spreads to the neck, jaw, ears, arms, and wrists, and possibly to the shoulder blades, back, or abdomen. Changing position, resting, or lying down is unlikely to bring relief. The pain is often constant but may come and go. It can last from a few minutes to several hours. A heart attack is a medical emergency that can result in death or permanent heart damage. If a person is showing symptoms of a heart attack, it is vital to call the emergency services immediately.

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 31-36
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-04

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Medications that people can take to reduce the risk or effects of CHD include:

Beta-blockers: Your doctor may prescribe beta-blockers to reduce blood pressure and heart rate, especially among people who have had a heart attack.

Nitroglycerin fragments, sprays or tablets: It dilates the arteries and reduces the heart's need for blood, as well as relieving chest pain.

Angiotensin-converting enzyme inhibitors: They lower blood pressure and help slow or stop the development of CHD.

Calcium channel blockers: they dilate coronary arteries, improve cardiac circulation and reduce hypertension.

Statins: This can have a positive effect on CHD results. Although a 2019 study found that taking statins did not reduce the risk of death from CHD, they did prevent the development and reduce the risk of non-fatal heart attacks. However, they may not be effective for people with cholesterol diseases such as hyperlipidemia.

In the past, some people have used aspirin to reduce the risk of CHD, but current guidelines only recommend it for people at high risk for heart attack, stroke, angina, or other cardiovascular diseases. This is because aspirin is a blood thinner that increases a person's risk of bleeding.

Now doctors are advising to focus on lifestyle strategies such as adopting a healthy diet and exercising moderately and intensely on a regular basis. These strategies can reduce the risk of atherosclerosis.

Surgery

The following surgical treatments can open or replace blocked blood vessels if they are too narrow or the symptoms do not respond to medication:

Laser surgery: This involves creating several very small holes in the heart muscle. These stimulate the formation of new blood vessels.

Coronary bypass surgery: The surgeon uses a blood vessel in another part of the body to create a graft that bypasses the blocked artery. The graft can originate from the leg, for example, or from an internal thoracic wall artery.

Angioplasty and stent placement: The surgeon inserts a catheter into the narrowed portion of the artery and passes the deflated balloon through the catheter to the affected area. As they inflate the balloon, it squeezes the fat deposits into the artery walls. They may leave a stent or mesh tube to help keep the artery open.

In rare cases, a person may need a heart transplant. However, this is only possible if the heart is severely damaged and treatment fails.

Treatment

Modern approaches to the treatment of coronary artery disease include

1. Correction of significant risk factors through state educational programs to form the level of information content of the population about risk factors; by the formation of the priority of a healthy lifestyle; -on training the algorithm of actions in case of emergency conditions.
2. Identification and formulation of medical treatment for people with high and very high cardiovascular risk. Treatment of patients with stable angina pectoris stress

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 31-36
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-04

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

is aimed at: elimination, reduction of symptoms of the disease, primarily angina attacks, increasing tolerance to physical activity, improved prognosis of the disease and prevention of unstable angina pectoris, MI and sudden death.

Non-drug methods include surgical myocardial revascularization - coronary artery bypass grafting, balloon angioplasty with stenting of the coronary arteries. Decision, which method to choose depends on the choice to lay down. doctor,

X-ray endovascular surgeon, cardiovascular surgeon, taking into account the total risk of complications, the state of the myocardium, coronary arteries,concomitant diseases of the patient.

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(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 37-44
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-05

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

Journal Website: http://usajournalshub.com/index,php/TAJMSPR

Sonographic Predictors Of Pelvic Organs In Women With Premature Ovarian Failure

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ABSTRACT

Premature menopause is a pathological condition characterized by the cessation of the functional activity of the ovaries in women under the age of 40 and manifested by amenorrhea, high levels of gonadotropins in the blood, infertility and symptoms of estrogen deficiency. POF occurs on average in 1% of women. The exact nature of the disease remains unknown. The basis of this pathology, regardless of the etiological factor, is a decrease in the reserve of primordial follicles, which is unusual for this age period, up to its complete depletion and the formation of the afollicular type of POF. This condition is described as a "multifactorial syndrome" due to chromosomal abnormalities, genetic disorders, fermentopathies, infectious and iatrogenic factors.

KEYWORDS

Premature menopause, echography, amenorrhea, primordial follicle, infertility, hormone replacement therapy.

INTRODUCTION

Premature ovarian failure is a complex, multifactorial and long-term process. The term "premature ovarian failure" (POF) denotes a complex of symptoms that develops in women

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 37-44
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-05

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

under 40 years of age and includes amenorrhea, signs of pronounced estrogen deficiency and infertility with elevated levels of gonadotropins (FSH, LH) [1, 2]. The literature discusses the age range that makes it legitimate to diagnose premature ovarian failure. The age of POF formation is considered to be 35-43 years [8, 13], but most researchers point to the age of up to 40 years [6].

This pathology, regardless of the etiological factor, is based on a decrease in the supply of primordial follicles, which is unusual for this age period, up to its complete depletion and the formation of the afollicular type of POF. This condition is described as a "multifactorial syndrome" caused by chromosomal abnormalities, genetic disorders, fermentopathies, infectious and iatrogenic factors [1, 4,8].

There is a directly proportional relationship between the pool of primordial and the number of growing follicles, therefore, with a decrease in the number of the first, the size of the cohort of follicles, taken monthly in the ovulatory cycle, decreases. It is impossible to objectively assess the ovarian pool in vivo, therefore, indirect methods of determining it are necessary. According to some authors [2,4], along with hormonal methods, the main method is echography, which includes determining the volume of the ovary and the number of antral follicles. It has been established that the volume of the ovary is less than 3 cm3 [2, 9] and the presence of less than 5 antral follicles in the ovary is an unfavorable prognostic sign of the ovarian reserve [2, 4]. The number of antral follicles detected by transvaginal echography reflects the remaining pool of "resting" primordial follicles, which is confirmed by a number of works based on histological studies, in which a direct relationship was proved between the number of primordial and growing follicles [11,13].

At present, hormone replacement therapy is prescribed to correct early, mid-term and late metabolic disorders typical of POF [1]. At the same time, drugs are used, which include natural estrogens in dosages that temporarily maintain their concentration in blood plasma at the level of the early follicular phase of the menstrual cycle.

The aim of this study is to assess changes in the echographic parameters of the pelvic organs in patients with POF using sonography.

MATERIALS AND METHODS

We examined 35 women with premature ovarian failure aged 18 to 40 years (mean age 36.4 ± 2.8) before and after 12 months of taking hormone replacement therapy. The control group included 30 women of reproductive age with a preserved menstrual rhythm, who underwent echography of the pelvic organs on the 3rd day of the cycle. The levels of hormones (FSH, LH, E2 and T) were determined by ELISA using the appropriate test systems. Transvaginal ultrasound examination of the pelvic organs was carried out on the "" apparatus using a multi-frequency transvaginal transducer with a frequency of 8 - 6 - 4 MHz. With transvaginal echography of the pelvic organs, the volume of the ovaries was calculated and the antral follicles in them were counted, in addition, the size of the body of the uterus was measured and the state of the endometrium was studied.

Hormone replacement therapy for patients with premature ovarian failure was carried out with «Lenzetto» preparations (spray,

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 37-44
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-05

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

transdermal, 1.53 ml / 1 dose, (Gedeon Richter, Hungary). The estrogenic component in it is represented by estradiol hemihydrate. «Lenzetto» was used 1 time per day in a continuous sequential mode in combination with Duphaston (10 mg) Duphaston was prescribed for 14 days.

Statistical data processing was performed on a computer using «Microsoft Excel» spreadsheets and «Statistica for Windows» v. 7.0, StatSoft Inc. (USA).

RESULTS

A prospective clinical and laboratory examination of 35 patients with POF (mean age 36.4 ± 2.8 years) was carried out. By the time of the study, the duration of the disease was 4.7 ± 1.4 years, and the age of onset of the disease was 30.2 ± 2.6 years. The onset of menstrual rhythm disturbances occurred at the age of 29.3 ± 1.3 years.

Among the reasons that led to the development of POF, the patients most often noted stress factors (26.92%), although in the majority of patients (53.85%) it was not possible to establish the direct cause of POF.

The onset of the disease by the type of oligoamenorrhea was detected in the majority of patients (92.3%), only 7.7% had a sudden cessation of menstruation as a persistent amenorrhea.

All patients with POF complained of secondary amenorrhea, 25 (71.4%) - increased fatigue, 23 (65.7%) - hot flashes, 21 (60%) - infertility, 16 (45.7%) - for decreased libido, 7 (20%) - for vaginal dryness, 5 (14.3%) - for dizziness, 3 (8.6%) - for frequent urination, 2 (5.71%) - for weight gain , 2 (5.71%) - for an increase in blood pressure.

The severity of symptoms of sex hormone deficiency according to the Kupperman index (16.1 ± 1.6 points) was assessed as moderately severe.

The average level of LH and FSH in patients with POF significantly exceeded the standard values for women of reproductive age, amounting to 92.6 ± 4.8 and 117.8 ± 4.2 IU / L, respectively. The concentration of estradiol (75.4 ± 9.6 pmol / L) in women with POF was significantly lower than the normative indicators of the early follicular phase in women with regular menstruation, while in 24 (68.6%) patients the level of estradiol did not exceed 69 pmol / l and averaged 54.6 ± 12.7 pmol / l. It is interesting to note that, on average in the group, in women with POF, the testosterone level was 1.1 ± 0.07 nmol / l, and in 21 (60%) patients it was within 0.3-0.8 nmol / l and amounted to 0 , 71 ± 0.2 nmol / l, which is regarded as a persistent hypoandrogenic state.

To study the size and internal structure of the ovaries, 35 women with POF underwent transvaginal echography of the pelvic organs (Table 1) (Fig. 1).

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
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IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

Table 1. Echographic characteristics of the ovaries in patients with premature ovarian failure

Indicator	Patients with PYAN (n = 35)
Ovarian imaging on both sides	27 (77,14%)
Ovarian imaging on the right only	2 (5,7%)
Ovarian imaging on the left only	2 (5,7%)
The ovaries are not visualized on both sides	1 (2,9%)

Table 2. Echographic picture of the ovaries in patients with premature ovarian failure and control group

Indicator	Patients with POF (n = 35)	Control group (n = 33)
Rightovaryvolume, cm^3	1,78+0,21*	5,9+1,6
Left ovary volume, $см^3$	1,79+0,26*	6,0+1,4
Follicular type of POF	17 (51,5%)*	33(100%)
Up to 5 antral follicles	9 (25,7%)	-
5-10 antral follicles	8(22,9%)*	33(100%)
Average number of antral follicles for per ovary	3,4+1,2*	6,6+1,7
Afollicular type POF	15 (42,9%)	-
Uterine body volume, $см^3$	27,4+2,3*	46,7+1,9
M-echo, см	0,3+0,08	0,5+0,02

Note. * - Significant difference in relation to the control group (P <0.05).

The American Journal of Medical Sciences and Pharmaceutical Research
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IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

Table 3. Hormonal profile of patients with follicular and afollicular types of premature ovarian failure.

Indicator	Follicular type of POF (n=15)	Afollicular type of POF (n=20)
E2 level, pmol / l	105,6+18,41*	61,2+5,6
FSHlevel, IU / L	100+12,8	111+10,8

Hormone replacement therapy was recommended to all 35 patients with POF to relieve early (and in some cases, late) symptoms of sex hormone deficiency. During the administration of the drug, all patients experienced a regular menstrual-like response, no acyclic spotting was observed.

After 12 months of taking hormone replacement therapy, the Kupperman index was determined in patients. It was 5.6 ± 1.6 points, which indicates the replacement of the missing sex hormones. This has also been confirmed by hormonal studies (Table 4).

Table 4. Hormonal profile in patients with premature ovarian failure before and after 12 months of taking HRT.

Indicator	Average value	
	Before treatment	After treatment
FSH, IU / L	117+37,6	49,2+9,64
LH, IU / L	92,4+34,7	50,2+8,1
E2, pmol / l	77,1+9,6	178,4+30,1
T, nmol / L	0,9+0,18	1,2+0,2

As can be seen from Table 4, after 12 months of taking HRT, the LH level decreased almost 2 times and amounted to 50.2 + 8.1 IU / L, FSH - more than 2 times (49.2 + 9.64 IU / L) ...

Simultaneously with the fall in the level of gonadotropins, the level of E2 increased by 2.3 times (178.4 + 30.1 pmol / l). During therapy, we also achieved an increase in testosterone levels

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
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IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

by about 20% (from 0.9 + 0.18 to 1.2 + 0.2 nmol / l).

After hormone replacement therapy, 28 patients with POF underwent dynamic transvaginal echography of the pelvic organs. At the same time, an increase in the volume of the ovaries was revealed by 32-80%, the body of the uterus - by 35%, as well as a relative improvement in the indices of the ovarian reserve (Table 5).

Table 5. Dynamic transvaginal echography of the pelvic organs after 12 months of HRT.

Indicator	Before treatment	After treatment
Rightovaryvolume, см^3	1,78+0,21*	2,4+0,6
Leftovaryvolume, см^3	1,79+0,26*	3,2+0,8
Follicular type of POF	17 (51,5%)*	19 (67,9%)
Up to 5 antral follicles	9 (27,3%)	22 (78,6%)
5-10 antral follicles	8(24,2%)*	4(14,3%)
Average number of antral follicles for per ovary	3,4+1,2*	5,0+1,0
Afollicular type of POF	15 (45,5%)	9 (32,1%)
Uterine body volume, см^3	27,4+2,3*	35,1+2,6
M-echo, см	0,3+0,08	0,5+0,09

Note. * - p <0.05 when compared between the two groups.

DISCUSSION

The results of the study show a decrease in the volume of ovarian reserve in women with POF (up to 1.78 + 0.21 and 1.79 + 0.26 cm3 for the right and left ovaries, respectively) and the number of antral follicles (up to 3.2 ± 0.9 follicles on the ovary). They agree with the data obtained earlier [1]. Ignatieva R. Ye. Et al. [5] found that in POF the follicular type of pathology is detected in 60% of cases. We found follicles in 64.5% of women with POF, which indicates a significant decrease in ovarian reserve in the examined patients.

In patients with POF against the background of hormone replacement therapy with drugs that include a gestagen with a partial androgenic effect, an increase in ovarian volume was noted by 31-77%. The average volume of the uterus during therapy increased by 34%. The data obtained are due to an increase in the level of E2 (77.1 + 9.6 to 178.4 + 30.1 pmol / L) and a decrease in FSH (from 117 + 37.6 to 49.2 + 9.64 IU / L). Our data are consistent with the results of the XuH study. etal. [13].

The American Journal of Medical Sciences and Pharmaceutical Research
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IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

Thus, the follicular type of POF was detected in 67.9% of patients compared to 55.5% before treatment, while in 22 (78.6%) patients up to 5 antral follicles were visualized, in 4 (14.3%) patients - up to 10 antral follicles, which indicates a relative improvement in ovarian reserve indicators.

CONCLUSION

Thus, transvaginal echography is a non-invasive highly informative technique that allows dynamic monitoring of patients with POF who are taking hormone replacement therapy. To increase the effectiveness of hormone therapy, patients with POF should be advised to modify their lifestyle taking into account the existing corrected cardiovascular risk factors.

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Published: February 28, 2021 | **Pages:** 37-44
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The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 45-49
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-06

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

Journal Website: http://usajournalshub.com/index,php/TAJMSPR

Study Of The Market Of Drugs Used In Hepatosis

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ABSTRACT

This article reveals the need for study of the market of drugs used in hepatosis, it is rather difficult to substantiate and systematize the treatment of fatty hepatosis with such a variety of causes that cause it. therapy should be aimed at eliminating the causes, at stopping the syndromes of impaired digestion and absorption, at restoring the function of the liver and biliary system. this excludes the intake of certain drugs and alcohol abuse.

KEYWORDS

Hepatosis, drugs, steatohepatitis, pharmaceutical market.

INTRODUCTION

In the anatomical and therapeutic classification of the World Health Organization, there is no association of drugs under the general name "hepatoprotectors". According to a number of foreign hepatologists, "protection", as such, implies the prevention of the disease, and "true hepatoprotectors" can be called vaccines against hepatitis A, B. The same drugs that are prescribed before, during or after liver damage should be therapeutic. hepatotropic agents.

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 45-49
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-06

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

To analyze drug-induced liver disease over an 8-year period from January 2015 to December 2019 in one gastroenterological department. International consensus of standard definitions and criteria for assessing causality of adverse drug reactions were applied to all patients with abnormal hepatic test results. Drugs were implicated in hepatic injury in 30 patients (15 men and 15 women) in whom there was a causal or highly probable relationship between drug use and liver disease. The drugs responsible for liver damage were Chinese medicinal herbs (n = 12), cyclosporin (n = 2), fosfomycin, gentamicin, flutamide, acipimox and nimesulide (n = 1 each). Of the 30 patients, 19 (63.3%) were classified as having hepatocellular or mixed hepatitis, eight (26.7%) as having cholestatic injury and the remaining three as having a severe hepatic drug reaction (prothrombin < 50%), including death. A thorough history of medication should be taken in all patients presenting with abnormal hepatic test results. Chinese medicinal herbs were the most frequent hepatotoxic factor in our patients, although the liver injury was not severe in most cases and was relieved after the prompt withdrawal of the suspected drug.Fatty liver disease, or fatty hepatosis, or as it is also called - hepatic steatosis is the most common liver disease in our time all over the world, in almost the vast majority of people over 40 years old, and recently a fairly frequent disease of young people and not only with being overweight. The essence of the disease lies in the obesity of the liver, replacing a normal healthy liver with fat, which leads to cirrhosis, like any other liver disease, including viral hepatitis.

The diagnosis is established by ultrasound examination of the liver, and at the same time, most often the patient hears from the doctor that almost everyone has a disease and the only way of treatment is weight loss. Most often, these recommendations are not taken seriously, and weight loss is not such an easy solution, since the cause of obesity, including internal obesity, is pathological changes in metabolism and hormonal disorders.Fatty hepatosis or hepatic steatosis is not the result of bad behavior, poor lifestyle choices, including diet and exercise. Fatty hepatosis is a dangerous disease that requires treatment.However, unlike many other liver diseases, fatty hepatosis is a difficult to treat disease, since hepatologists do not have a single standard of drug treatment for this pathology.

Effective drugs for the liver, which today doctors recommend to patients, can be conditionally divided into the following groups:

- Plant hepatoprotectors.
- Amino acids.
- Preparations of animal origin.
- Supplements and vitamins.
- Homeopathic remedies.
- Essential phospholipids.

Artichoke leaf extract (Hofitol) due to the presence of phenolic acids and flavonoids in the preparation has a noticeable antioxidant activity. Affects the functional activity of hepatocytes, stimulating the production of enzymes, increasing the antitoxic function of the liver. In terms of hepatoprotective effect, it is comparable to silibinin. It has choleretic and cholekinetic effects. The hypolipidemic effect of chophytol is described. In addition, the drug has a mild potassium-sparing diuretic effect, helps to normalize glomerular filtration. It is

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 45-49
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-06

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

used for liver diseases, especially in combination with kidney and / or urinary tract pathology, for non-alcoholic fatty liver disease, effective for toxicosis and liver pathology in pregnant women.

Hofitol is contraindicated in cases of cholelithiasis, obstruction of the biliary tract, acute diseases of the liver and kidneys, bile and urinary tract. However, attempts are being made to combine Hofitol with statins in the early stages of cholelithiasis . To date, there are few completed controlled studies of the drug.Apply Hofitol 2-3 tablets or 2.5-3 ml 3 times a day before meals. The course is 2-3 weeks or intravenous drip, or intramuscularly for 8-15 days, followed by a switch to oral administration.

Liv-52 contains a number of medicinal plants widely used in traditional Indian medicine. It is believed that Liv-52 protects the liver parenchyma from toxic agents. Acts as a therapeutic or prophylactic agent. Strengthens intracellular metabolism and stimulates regeneration. At the same time, there is evidence that the use of the drug in acute liver pathology can aggravate the severity of cytolytic and mesenchymal-inflammatory syndromes. Due to this, the drug can be recommended with minimal severity of the inflammatory syndrome, when the phenomena of synthetic organ failure come to the fore. In addition, one of the randomized controlled trials of Liv-52 (1200 mg for alcoholic hepatitis (n = 188)) showed that the survival rate in the Liv-52 group was 74%, and in the placebo group - 86%. The results of this study led to an immediate recall of the drug from the US pharmaceutical market.

Thus, according to the data of randomized controlled trials, it has been shown that the use of hepatotropic herbal preparations in patients with various pathologies of the liver and biliary tract indicates their effectiveness (in terms of the effect on surrogate points of therapy) in motor dyskinesia of the biliary tract, acute and chronic hepatitis, liver cirrhosis. Data on the effect on survival of patients with various liver lesions and other firm endpoints in large studies have not yet been obtained .Phospholipids are a key component of the lipid layer of any cell membrane. EPLs vary depending on the nature of the substituent associated with the phosphoric acid group. The main representative of EPL, which makes up 80-90% of cell membrane phospholipids, is phosphatidylcholine. The use of EPL as a source of structural elements of cell membranes has been confirmed in many studies. To date, many years of experience have been accumulated in the study and therapeutic use of EFL-containing drugs. EFL is a powerful antioxidant that captures free radicals, protects healthy liver cells from exposure, and at the same time protects damaged ones. restores.

Membrane stabilization and hepatoprotective effect is achieved through the direct addition of EPL molecules to the damaged biological membranes of hepatocytes, replacement of endogenous phospholipids. In clinical practice, EPL drugs are used in three main areas: liver disease and in its toxic injuries, including medical and alcoholism, with pathology of the internal organs, complicated by liver damage, and as a method of "drug coverage" in the use of hepatotoxic drugs.The substance for the production of EPL is a highly purified extract of soybeans, which contains high concentrations of phosphatidylcholine molecules, mainly polyunsaturated fatty acids [1]. The percentage of phosphatidylcholine should be taken into

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 45-49
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-06

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

account when selecting drugs from this group. This is the highest rate in Essentiale and Rezalut. These drugs differ from each other in production technology. In the production of rezalut is used technology of treatment with liquid nitrogen and encapsulation of the substance in a seamless capsule, which makes the drug more stable and does not require the addition of preservatives and stabilizers. Long-term use of Essliver-forte limits the presence of a complex of vitamins in the composition of the drug.

Disadvantages of this group include:

- Ability to induce cholestasis;
- Low oral bioavailability;
- Peanuts are contraindicated for intolerance to soy

A prerequisite for the effectiveness of EPL is the presence of sufficiently high doses (1.8 g / day or 1.0 g / day intravenously) with a sufficiently long duration of treatment (from 3 months) according to numerous randomized controlled trials. , phospholipids have been shown to improve the histological picture in the liver in chronic hepatitis, limiting cytolysis events .However, although large studies on long-term (2 years) drug intake have shown beneficial effects on transaminases and bilirubin levels, they have not shown an effect on the development of fibrosis in the liver. In Russia, EPLs are frequently used, while in the European Union and the United States they are not used in clinical practice (provided in the form of food supplements) because randomized placebo-controlled studies, particularly cooperative studies on Veterans Affairs (2003) did not determine the positive effect of these drugs on liver function compared to placebo. In addition, EPL is contraindicated in acute and chronic hepatitis because it enhances cholestasis and cytolysis. Thus, the level of proving the effectiveness of EPL at the Class D level to date.

A multicenter clinical study of Rezalut, conducted in 55 medical facilities and involving 580 patients, confirmed a clear hepatoprotective and hypocholesterolemic effect. A number of small studies have shown that the use of drugs of this group in the treatment of patients with fatty liver disease helps to achieve clinical and biochemical remission and reduce inflammatory activity but no morphological and especially fibrotic o. 'has a significant effect on the severity of changes. In a study in Russia, the use of EPL in patients with alcoholic steatohepatitis reduced the severity of cytolysis and, to a lesser extent, cholestasis, and reduced the morphological signs of inflammation and fat degeneration In a large number of studies, there is no reliable data on the effect of drugs on the survival of patients with various liver injuries and other severe endpoints. according to the drug, it helps to reduce the risk of developing hepatocellular carcinomas in patients with chronic viral hepatitis and especially in patients who do not respond to treatment with interferons. In a small study in patients with alcoholic liver disease, the use of phosphogliv for 6 months allowed a decrease in fatty degeneration of hepatocytes, Preparations that activate the formation of endogenous detoxifiers (Ademetionine (Heptral), Remaxol).This group has the ability to reduce the phenomena of toxemia that develop in hepatocellular insufficiency of various origins due to direct interaction with endogenous toxicants.

S-adenosyl-L-methionine (Heptral) plays a central role in the biochemical reactions of transmethylation (biosynthesis of

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 45-49
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-06

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

phospholipids), transulfation (synthesis and turnover of glutathione and taurine, conjugation of bile acids with an increase in their hydrophilicity, detoxification of bile acids and many xenobiotics) and aminopropylation (synthesis polyamines such as putrescine, spermidine and spermine, which play an important role in the formation of the ribosome structure and regeneration processes), where it serves either as a donor of groups or as a modulator of a number of enzymes .With the use of Ademetionine, the elimination of free radicals and other toxic metabolites from hepatocytes increases. The experiment showed the anti-fibrotic activity of Ademetionine .In addition to hepatoprotective properties, Ademetionine also has an antidepressant effect, the mechanism of which is far from fully understood .Ademetionine is quite effective in liver pathology, accompanied by hepatic encephalopathy. However, it should be noted that the maximum severity of the hepatoprotective effect is achieved only if the drug is administered parenterally. Ademetionine has the predominant effect on the manifestations of toxemia and to a much lesser extent affects the indicators of cytolysis and cholestasis. Most of the clinical studies of Ademetionine have been carried out in psychiatry, with alcoholic liver disease. In the largest double-blind, placebo-controlled multicenter study (1999) for alcoholic cirrhosis of the liver, Ademetionine was used for 2 years, which led not only to an improvement in laboratory parameters, but also increased the survival rate of patients with class A and B cirrhosis. class C, no significant difference was obtained .In recent years, publications have appeared on the use of Ademetionine as an accompanying drug in polychemotherapy .

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The American Journal of Medical Sciences and Pharmaceutical Research (ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 50-54
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-07

IMPACT FACTOR 2021: 5. 64
OCLC - 1121105510

Journal Website: http://usajournalshub.com/index,php/TAJMSPR

Features Of The Use Of Antioxidant Drugs In The Treatment Of Psoriatic Disease

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ABSTRACT

Psoriasis is a chronic non-infectious disease of a multifactorial nature, which often occurs in the form of rashes and peeling of the skin. Psoriasis occupies a significant share in the dermatological structure of diseases at the present time. [1, 2]. Despite the numerous scientific studies conducted by scientists in many countries regarding the etiology, pathogenesis, clinic and treatment of psoriasis, there is still a question about the main cause of the disease.In a significant number of patients with psoriasis, lesions of the nervous system, cardiovascular, gastrointestinal pathology, pathology of the genitourinary system, as well as, often with damage to the articular systems of the skeleton together with disorders of the immune system, were revealed. All this indicates the multifactorial nature of the disease. In this regard, the search for optimal drugs that would affect several pathogenetic links of the disease is currently underway. [3, 4,]. Therefore, today, we consider this issue relevant.

KEYWORDS

Psoriasis, chronic, disease non-infectious disease, antioxidant therapy, drugs.

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 50-54
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-07

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

INTRODUCTION

Psoriasis affects about 4% of the world's population. It can develop at any age from birth to old age, but most of the manifestations of psoriasis are observed at a young age. This is evidenced by the fact that 70% of patients develop psoriasis before the age of 20. Psoriasis is an abnormal reaction of the body to external stimuli, in which the upper layer of the skin dies off much faster than normal in certain areas of the body. If usually the cycle of division and maturation of skin cells occurs in 3-4 weeks, then with psoriasis this process takes only 4-5 days. Morphological elements in psoriasis are flaky itchy plaques of various sizes and can be located on different parts of the body: elbows, knees, scalp or other parts of the body. Most scientists believe that psoriasis is a hereditary multifactorial disease: it is based on not one, but a whole complex of causes – immunological changes, metabolic disorders, concomitant endocrine and neurological disorders. [5, 6,]. And it is also possible to say with confidence that psoriasis is not an infectious, and therefore not a contagious disease. The causes of psoriasis have not yet been definitively found. In this connection, there are several theories of the origin of psoriasis According to one of the theories, there are two types of psoriasis:

- Type I psoriasis is caused by inherited disorders of the immune system. This form of psoriasis affects about 70% of people, while the disease manifests itself at a young age, from 16 to 27 years.
- Psoriasis type II occurs in people over 40 years of age. In this type of psoriasis, it is not inherited and is not associated with disorders in the cells of the immune system. Psoriasis type II more often affects the nails and joints. psoriasis type I – skin[8, 9].

Proponents of another theory believe that the cause of psoriasis is exclusively a violation of the immune system caused by various factors: stress, cold climate, infectious diseases or poor nutrition. The facts are given that the exacerbation of psoriasis can be a consequence of the use of alcoholic beverages, beer, champagne, strong alcoholic beverages. The use of products containing vinegar, pepper, chocolate, also worsens the course of the disease and can cause an exacerbation of psoriasis. According to this theory, psoriasis is a systemic disease. This means that with serious disorders of the immune system, the process can spread to other organs and tissues, for example, to the joints. As a result, psoriatic arthritis can develop, which is characterized by damage to the small joints of the hands and feet.

The aim of the study was to Determine the clinical efficacy and safety of antioxidant therapy in the treatment of patients with psoriasis

MATERIALS AND METHODS

We observed 60 patients with a vulgar form of psoriasis, including 44 women (70.0%) and 16 men (30.0%), aged 20 to 55 years, with a disease duration of 4 to 15 years. All patients underwent a dermatological examination prior to treatment, which revealed the following localization of lesions in psoriasis: on the extensor surface of the upper limb in 30 patients (50%), on the scalp in 12 (19.8%), on the extensor limbs of the lower limbs in 6 (9.9%), on the skin of the genitals in 6 (9.9%), on the back in 3 (9.9%). Severe common course of psoriasis was observed in 42 patients (69.3%),

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 50-54
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-07

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

moderate severity - in 4 (6.6%), mild – in 14 (23.1%). All the patients who came to us complained about: seasonality (periodic exacerbation of the disease, especially in the autumn-spring periods), exacerbation of the disease with nervous stress, and often not the effectiveness of previously received medical procedures. All patients underwent a general blood and urine test, a biochemical blood test, and ultrasound diagnostics of internal organs. The results of the tests gave the following figures: 20 of the 60 patients, the increase pechenocna enzymes and bilirubin, in 30 of 60 increase in alkaline phosphatase,and 10 of the 60-level rise thymol sample. Taking into account the violation of the biochemical parameters of the blood of all patients who were under our supervision, we came to the decision to add, in complex therapy, the safest and most effective antioxidant drug "Stronger-neo" Minofagen-S.

Active Ingredients: Stronger Neo-Minophagen (SNMC) is an injectable preparation of Glycyrrhizin, an extract of the saponin component found in the roots of Licorice (dried roots and rhizomes), which grows in the northwest region of China. Chemically, Glycyrrhizin inflate is a compound of glycysyrinic acid and two glucuronic acid molecules.

Composition 20 ml contains: Monoammonium Glycyrizinate (GL) 53 mg (as glycyrizine 40 mg) Glycine (JP) 400 m, L-Cysteine hydrochloride 20 mg

Indications for use

- Improvement of liver function in chronic liver diseases;
- Eczema, dermatitis, urticaria, itching (the historic centre), overdose or toxicodermia, stomatitis, scabies (strophulus), psoriasis, baldness, phlyctena. Basic Pharmacological actions.

Anti-inflammatory drugs/. Anti-allergic effects. Anti-allergic effect. Inhibition of the Artus reaction and the Schwartzman reaction. The increase in the inhibitory activity of members of stress reactions, antagonism to anthrolations action therapy atiii thymus, calling largura. Slowing down the action of arachidonic acid in the chain, slowing down the phosphorylation of intracellular factors such as PLA2, lipoxygenase, and lipocortin. Stabilization of the cell membrane (cytoprotective effect). Effect on the infiltration of white blood cells. Modulating the immune response. The effect of controlling T-cell activation; The stimulating effect of interferon is the effect of NK cells (natural killer cell)-cells; The effect of giving strength to T lymphatic cells; The effect of increasing the production of Cytokines (IL-2, IL-10, IL-12). The effect of increasing the activity of the internal glucocorticoid. The effect of increasing the growth of hepatocytes. Antioxidant effect. Depending on the therapy, the patients were divided as follows: group 1 (30 patients) received basic therapy using glucocorticosteroid drugs orally (prednisone 60 mg per day – 20 days, with a gradual dose reduction of 4 mg every 10 days); group 2 (30 patients) received a course of therapy using the antioxidant Stronger Neo-Minophagen (SNMC) intravenously with saline solution for 10 days.

In combination with the main therapy, patients of both groups were treated with local epithelial and anti-inflammatory agents (Dermovate ointment, Betasalik, Elokom, 2-3% salicylic ointment).

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IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

RESULTS

In patients of both groups, before the start of the recommended complex therapy, the main clinical manifestations of the disease were characterized by the growth of elements on the periphery, the fusion of papules into plaques. The elements are bright red in color, covered with abundant silver-white scales. An inflammatory corolla of peripheral growth erythema, devoid of scales, was observed around the plaques. As a result of the treatment, in the first group, remission was observed in 20 patients (68.97%) on the 9th day of treatment, significant improvement-in 9 (31.03%) on the 11th day, without effect – in 0 (0%). A slight positive trend was observed on day 11-12 of treatment. The complete disappearance of symptoms was noted only after the completion of the full course of treatment. Adverse events were reported in all patients, regardless of the outcome of therapy. Dyspeptic phenomena in the form of nausea, vomiting, decreased or increased appetite were observed in 13 patients (79.31%), rhythm disturbances – in 6 (55.17%), arterial hypotension – in 11 (37.93%). After the end of complex treatment with the use of a glucocorticosteroid drug, remission was observed in 4 patients (6.90%), mild severity – in 10 (17.24%), moderate severity – in 4 (41.38%), severe psoriasis was observed in 12 patients (34.48%). In psoriasis patients, remission was observed in 22 patients (72.6%), mild severity in 5 patients (16.5%), moderate severity in 3 patients (9.9%), and severe disease was observed in 0 patients (0%) 3 months after the end of complex therapy using the antioxidant drug strong-neo.

CONCLUSIONS

The complex method of therapy developed by us, including the drug Stronger Neo, demonstrated higher effectiveness in the treatment of the progressive stage of common vulgar psoriasis, which was expressed in the acceleration of the relief of clinical manifestations of a specific process. As a result of the treatment method, the high clinical effectiveness of the antioxidant drug stronger-neo in the treatment of all forms of psoriasis was established, which was expressed in a rapid decrease in anti-inflammatory phenomena and a decrease in subjective sensations in all patients, which contributed to improving the quality of life of patients.

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Published: February 28, 2021 | **Pages:** 50-54
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-07

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The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 55-58
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-08

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

Journal Website: http://usajournalshub.com/index,php/TAJMSPR

Careful Attention To The History Of Chronic Urticaria Is One Of The Important Factors Of Productive Therapy

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ABSTRACT

Urticaria is an allergic disease characterized by the appearance of blisters on the skin and mucous membranes. The disease can be caused by external factors (temperature, mechanical, chemical) or internal (diseases of internal organs, disorders of the nervous system). [1, 2]. Allergies can be caused by toxins, bacteria, and undigested food. In the diagnosis of the disease, anamnestic data, dermography and various skin allergological tests are used. There are acute (up to 6 weeks) and chronic (more than 6 weeks) urticaria. The latter is characterized by daily or frequent symptoms (blistering, itching, angioedema for 6 weeks or more [3, 4]. During life, 0.5-1% of the entire population of people suffers from chronic urticaria. At the same time, if acute urticaria is usually associated with the action of exogenous factors and allergens (food, medicines, insect bites, etc).

KEYWORDS

Urticaria, chronic urticaria, idiopathic urticaria, disease, allergic disease, skin and mucous membranes, factors

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 55-58
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IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

INTRODUCTION

In many cases, the cause of chronic urticaria is another disease or condition (for example, rheumatoid arthritis, infection, etc.) and urticaria is only a "symptom" of this disease or its cause is not detected at all (chronic idiopathic urticaria (HIC)). [5, 6, 7]. With repeated rashes, recurrent urticaria is diagnosed. Given the multifactorial nature of the causes that cause urticaria, patients are recommended to prevent the ingestion of allergens, diet, antihistamines, sedatives. If necessary, steroids and diuretics are used. [8, 9].

OBJECTIVE

To use the most effective treatment tactics based on a careful study of anamnestic data in patients with chronic urticaria.

Materials And Methods Of Work

34 patients aged from 30 to 50 years were taken under our supervision. All patients are married or married, have children, the duration of the disease in the anamnesis is on average 2-4 years. Among the patients, 18 are women and 16 are men, all of whom have received different recommendations so far. All patients underwent clinical and laboratory examinations (general blood and urine tests, biochemical blood tests, ultrasound diagnostics, and were additionally examined by specialists according to indications. The most important anamnestic data are revealed. It was found that patients received sodium thiosulfate, suprastin, and loratadine repeatedly during the treatment period. Dexamethasone injections in addition, 4 women were prescribed 2 times in the previous period of therapy, and 6 men were given diprospan injections in three cases. In addition, 18 of these patients had chronic constipation, in 10 cases insomnia, in 2 cases, headache and joint pain in 4 cases, and in recent years, in 4 patients, due to the increased frequency of the above-mentioned complaints, uncontrolled unjustified use of ketanal and cinepar drugs was established, as a result of which heartburn and dyspeptic phenomena appeared. Symptoms of cholecystopancreatitis (in the morning, a sharp bitter taste in the mouth, a feeling of pain in the right hypochondrium, sometimes pain in the lumbar region, dyspepsia, belching and ultrasound) were established in two patients. In addition, 6 out of 16 men have symptoms of irritability, insomnia, and chronic constipation. From the conclusion of the neurologist, 2 patients had headaches associated with mild circulatory disorders of the brain, and 8 patients observed dependence on alcohol and smoking tobacco cigarettes, which aggravated the disease. Due to the presence of bad habits, urticaria was often accompanied by nausea. As mentioned above, all the patients under our supervision, along with chronic urticaria, were diagnosed with various symptoms and an unhealthy lifestyle. In view of these conditions, it is important to conduct productive and targeted therapy in these patients with the aim of effective treatment. The goal is to fight the evil - bad habits simultaneously with the directly conducted therapy. For this purpose, in addition to general therapeutic measures, symptomatic treatment is recommended for each patient. The treatment tactics were as follows. Women consisting of 10 patients are recommended; antihistamines, desensitizing drugs, sedatives, adsorbents, normalizing the tone of the gastrointestinal tract. The diet should contain products from dairy and

The American Journal of Medical Sciences and Pharmaceutical Research
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IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

vegetable origin, with an emphasis on limiting salt and sugar. Exclusion of all allergenic products and allergens (shekolad, eggs, sausages, kazy, citrus fruits, strawberries, alcohol, levomycetin, spicy and spicy food).To eliminate constipation, in addition, we recommend "Dufalac" 15 ml (1 bag) 3 times a day, 45 ml (3 sachets) daily until complete recovery, then 15 ml (1 sachet) for a week. As a supplement to the main treatment of women suffering from insomnia, 2 capsules of "Persena" - night "2 capsules at night, for 4 weeks. Then, as a maintenance dose, take 1 capsule in the evening for 4 weeks at night, 4 women with heartburn - "Omeprazole" capsules 20 mg in the morning for 6 weeks before meals, 2 women with cholecystopancreatitis "Mezim forte" 2 tablets 1 time a day during meals for 6 weeks. In addition to the main treatment, 6 men suffering from irritability, insomnia and chronic constipation are recommended 2 capsules of "Persen-nocturnal" at night, for 4 weeks and 1 time at night as a maintenance dose for the next 4 weeks. "Dufalac" 15 ml (1 bag) 3 times a day, 45 ml (3 bags) a day until complete recovery, normalization of the stool, then 15 ml (1 bag) 1 time a day for a week. In addition to the main therapeutic measures recommended by the neurologist to 2 men with headaches, in order to improve cerebral circulation, it is recommended to take thiocetam 25% - 10.0 intravenously 1 time a day for 10 days, vinpocetin 1 tablet 3 times a day for 2 weeks after meals. The remaining 8 patients, consisting of men suffering from bad habits, are recommended to categorically exclude the use of alcoholic beverages and tobacco smoking, strict adherence to a healthy lifestyle and diet (dairy products), salt and sugar, eggs, chocolate, citrus fruits, gooseberries, strawberries, sausages, spicy food, spices, exclude from consumption.

THE RESULTS OBTAINED

As a result of the above treatment measures, the following results were achieved. Among the 10 women suffering from chronic constipation, there is a normalization of the stool after 4 days of our recommendations, as well as a sharp reduction in skin rashes, itching and a significant improvement in overall well-being. By the 10th day of treatment, the itching completely disappeared, the rash was not detected. In 2 patients with insomnia, an improvement in sleep was observed after 7 days of treatment, which, in turn, was accompanied by itching of the skin and a decrease in the number of rashes on the body. In the last days of treatment, these women experienced a complete recovery of sleep, and the disappearance of skin itching and rashes. Symptoms of dyspepsia and heartburn in 4 women sharply decreased from the 5th day of taking the recommended dose, and by the end of treatment, these sensations completely disappeared, as well as itching and itching. Symptoms of cholecystopancreatitis in 2 patients (bitterness in the mouth in the morning, pain in the right hypochondrium, sometimes pain in the lumbar region, dyspepsia, belching) are less noticeable on the 7th day of treatment. In the last days of the course of treatment, all objective and subjective symptoms disappeared in patients. Following the above-mentioned treatment tactics in men, the treatment of 6 male patients with symptoms of acute nervousness, insomnia and chronic constipation by the 10th day of treatment has already shown its effectiveness, and this patient was shown to be effective. In 2 men, headaches also sharply decreased with the disappearance of objective

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 55-58
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-08

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

skin manifestations. 8 male patients who abuse alcohol, along with the main treatment, antihistamines, desensitizers, sedatives, adsorbents, in addition to detoxification therapy, carried out explanatory work aimed at strict compliance with the recommended healthy lifestyle, also gave positive results in patients. Patients who received the above recommendations were monitored for 6 months after the end of the course of treatment, and none of the patients had relapses of chronic urticaria.

CONCLUSION

Thus, as already mentioned above, in the treatment of pathological skin processes in patients with chronic urticaria, it is necessary to take into account the general condition of the entire body. In interviews with patients, a careful study of the history of history requires that we pay attention to the causes of disease, stage of development, clinical features and course of illness. At the same time, it is a therapeutic tactic that takes into account the consequences of potential internal diseases and functional changes in the central nervous system, as well as the consequences of existing unhealthy lifestyles that contribute to the recurrence of chronic urticaria.

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The American Journal of Medical Sciences and Pharmaceutical Research (ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 59-65
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-09

IMPACT FACTOR 2021: 5. 64
OCLC - 1121105510

Journal Website: http://usajournalshub.com/index,php/TAJMSPR

Research On Cultivation Of Medicinal Plants

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ABSTRACT

The article describes the results of research on the cultivation of Ferula assa-foetida L. plant, one of the valuable medicinal plant species. It was found that the seeds of Ferula assa-foetida L. plant have good germination properties in laboratory and field conditions, and it is possible to establish its industrial plantations by sowing the seeds.

KEYWORDS

Pharmaceuticals, medicinal plants, seeds, fertility, sowing dates, sowing depth, stratification, arid regions.

INTRODUCTION

The natural flora of the Republic of Uzbekistan contains many species of medicinal plants, which have long been used in traditional medicine for the treatment of various diseases. However, today more than 70% of the most important medicines needed by the population of the republic are imported from abroad, which makes it necessary to accelerate the development of the local pharmaceutical industry. In recent years, the President of the

The American Journal of Medical Sciences and Pharmaceutical Research
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IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

Republic of Uzbekistan has attached great importance to the development of the pharmaceutical industry in the country and identified several urgent tasks. One of the priorities that needs to be **addressed is the cultivation of the most important medicinal plant species and the creation of their industrial plantations**. The creation of industrial plantations of wild plant species, in turn, requires the development of science-based agro-technical measures for their cultivation. Therefore, scientists of a number of research institutes and higher education institutions of the country are currently conducting research to develop agro-technical measures for the cultivation of valuable medicinal plant species in the wild. Research Institute "Oriental Medicine" conducts research in the field of cultivation of medicinal plants, obtaining effective drugs from them and conducting clinical trials. Ferula assa-foetida L. valuable healing properties of plants, mountain desert and semi-desert regions of Uzbekistan widespread. As the demand for raw materials of this plant species is growing in the world market, its natural resources are being exploited by entrepreneurs, which puts them at risk of losing their natural resources. It is known that the most effective way to protect any plant species is to cultivate it. Therefore, the establishment of industrial plantations through the cultivation of these plant species is especially important from an ecological, economic and social point of view.

Ferula assa- foetida L. is a plant that has long been known as a medicinal plant. It is thought that in Ferula assa-foeti, L. is superior to the ginseng plant in its healing properties. Ferula assa-foetida L. plant has been used in traditional medicine in the treatment of malignant tumors (cancer), trauma. Alcoholic tincture of glue-resin obtained from it has been used in asthma, stroke, and nervous diseases.

Figure 1. Ferula assa-foetida L

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
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In scientific medicine, L. glue-resin in Ferula assa-foetida, powder, emulsion and alcohol tincture under the name "assa-foetida" is used as a painkiller and sedative, and in many countries, it is included in the pharmacopoeia. Abu Ali Ibn Sina described this plant as follows: "In Ferula assa-foetida, if you drink 50 grams of L. seed decoction three times, your mother's milk will increase. When the hand is mixed with water and drunk, there is an immediate sound. Adding figs to the juice and eating it corrects jaundice. Adding pepper and vinegar to the glue is useful when applied to poor quality wounds. It is also greatly beneficial for hair loss. Ferula assa-foetida L. plant treats brain sclerosis, bronchitis, asthma, jaundice, whooping cough, diabetes, stops bleeding. The root drip treats urination and kidney pain.It is useful to drink 30 grams of decoction three times a day (for 15 days). Root decoction heals all the pain. It relieves suffocation and corrects pain. Such a high assessment of the L. plant by the medical genius Ferula assa-foetida is an indication of how valuable a plant it is. Ferula assa-foetida L. types of pharmaceuticals, healing the importance of the study and treatment of some diseases of the characteristics of data on the effectiveness of Internet F ALARM and many foreign countries can be observed in the works published by scientific experts (http: // narmedblog.ru/ .; Abd El -Razek, 2007; Saleem M., Alam A., Sultana S., 2001; Fatehi M., Farifteh F., Fatehi-Hassanabad Z., 2004; Bagheri SM, Sahekar A., Gohari AR, Saeidnia S., Malmir M., Iranshahi M., 2010).

THE PURPOSE OF THE STUDY

Ferula assa- foetida consists of the development of agro-technical measures for the cultivation of L. plant.

The research tasks were as follows:

- Study the sowing qualities of those seeds and develop methods to increase their fertility.
- Shoot, he plants the orange productivity features.
- It is to determine the optimal depth of burial of seeds in the soil, the norms of seed consumption.
- Study of growth and development characteristics of plants in crop conditions.

As a source of research Ferula assa- foetida was served by seeds collected from wild populations of the L. plant. The studies were performed in laboratory and field conditions. In Ferula assa- foeti, L. seeds were sown in December-April to a depth of 1, 2, 3, 4, 5 cm, and the optimal timing and depth of sowing were determined depending on the number of sprouted grasses. In the experiments, 100 seeds were sown in 4 repetitions. The TS-80-M-2 thermostat was used to study the germination of seeds in the laboratory. Production temperature is 0-230C during the day and night- home temperature. Commonly accepted methods in seed production were used to determine the mass of 1000 seeds (Gritsenko, Kaloshina, 1973);

- Dospekhov's (1979) methods were used in biostatic processing of research data.

RESEARCH RESULTS

In Ferula assa- foetida L. the shape of the seeds is leaf-like (elliptical) up to 18 mm wide and up to 30 mm long, with a longitudinal ovary in the middle of the seed leaf. The structure of the ovary is also deciduous, in large seeds it is up to 20 mm long and 8 mm wide. In the seeds of the

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 59-65
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-09

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2021: 5. 64
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natural population distributed in Carnabchol, 16-27 seeds per 100 seeds were found to be underdeveloped seeds. The absolute mass of 1000 seeds were 46.8 grams.

Seed germination under laboratory conditions. In his experiments to study the germination of seeds under laboratory conditions, generally accepted methods were used in seed production, i.e., seeds were sown in Petri dishes on a thermostat at a constant and variable temperature of 0- 23 0 C.

Figure 2. L. seeds in Ferula assa- foetida

Even when the experiments were repeated several times from December to June, no germination of seeds was observed. Optimal germination temperature is important in seed germination. Therefore, special experiments were performed to determine the optimal temperature required for seed germination. Seeds 0 - 5; When extracted at temperatures of 5 - 10 0 C, the maximum fertility was observed in the variant 0 – 5 0 C (fertility - 64%). In the second option, fertility was relatively low, at 39% (Table 1). But the duration of the experiments was almost 90 days. This is a long time and does not allow to evaluate the quality indicators of seeds in the short term.

The results of experiments to study the germination of seeds in field conditions also showed that the seeds have a dormancy period.

The American Journal of Medical Sciences and Pharmaceutical Research
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Table 1

Seed germination at different temperatures in the laboratory, %

Production temperature, ° C	Number of seeds, pcs	Fertility, %	Duration of experiment, days
0 - 5	100	64.6 ± 2.1	85
5 - 10	100	39.4 ± 1.7	87

In Ferula assa-foetida L. seeds germinate at relatively low temperatures. The seeds planted in December sprouted in the second ten days of February, ch IQA begin . It grew out of the study showed that the dynamics of the seeds planted 100 on March 29, 27, 4-martda- on March 44, 18 and 51 pieces of grass flour were not permitted out of .

Optimal timing of sowing seeds. The fact that the seeds have a dormancy period can also be seen from the data obtained from experiments to determine the optimal timing of sowing the seeds. When the seeds were sown in December, their germination rate in the field was 59.6%, while the germination rate of seeds sown in January was 47.3%, and no grass sprouted from the seeds sown in February .

The arrival of the spring of 2020 has created favorable conditions for the germination of seeds. Therefore, the germination of L. seeds in Ferula assa-foetida was relatively high in the field. However, the fact that the seeds sown in February did not germinate at all indicates that the seeds need to be stratified for some time.

Optimal depth of seed placement in the soil. In Ferula assa-foetida, L. seed germination was found to be causally related to the depth of seed germination. Seeds were sown at depths of 0, 5, 1.0, 2.0, 3.0, 4.0 cm, and the following data were obtained when studying fertility: the highest germination was observed in variants where seeds were buried to depths of 0.5 - 1.0 cm. The germination rate of seeds buried at these depths was 47%, in the variant buried at a depth of 2 cm the fertility was 33.5%, and when the seeds were buried at a depth of 3 cm the fertility was the lowest, i.e., only 11%. The seeds did not germinate at all from a depth of 4 cm. Therefore, the optimal depth of planting the seeds in the soil can be set at 0.5-1.0 cm.

In the experimental field in Samarkand, in the first year of life of the stink buckwheat ended the growing season in late May, early June. During this period, its upper part consisted of only a pair of elongated leaves in the form of lanceolate, the leaves were 12-15 cm long and 1.0-1.2 cm wide in the widest middle part. The root penetrates to a depth of 8–10 cm into the soil, the lateral roots are almost not formed, the main axis begins to expand at a distance of 3 cm from the root ball, 3 cm long, bulb-shaped thick root with a width of 0.8 mm in the middle, then sharply thinned formed a root system that continued to penetrate. The thickened onion-shaped part of the root is smooth, while the

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 59-65
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thinning part, which is deepening, is divided into joints with three small bulges (Fig.6). Thus, the fracture accumulates reserve nutrients in the root over the years and forms a stem in 8 - 9 years, flowering seeds and ends its life.

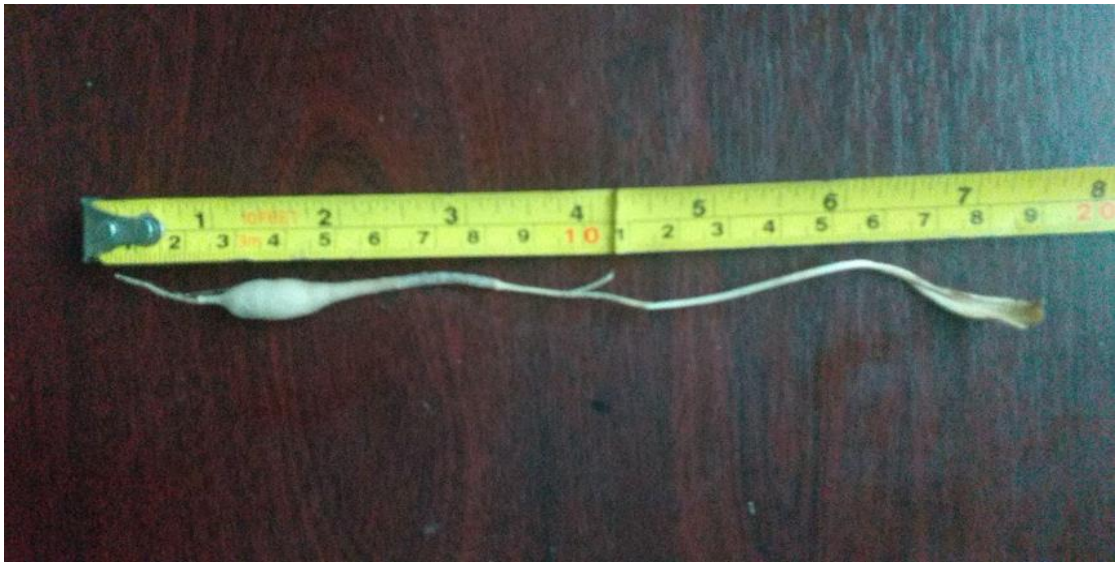

Figure 2. The root system in the first year of life of the ugly brittle.

CONCLUSION

As a result of research, data were obtained on the germination of Ferula assa-foeti L. seeds in laboratory and field conditions, the optimal timing and depth of sowing, the development of terrestrial and subsurface organs of grass in the first year. Ferula assa- foetida L. seeds germinate at relatively low temperatures (0 - 50C) and have a dormancy period. Long-term cold stratification should be used to remove seeds from the dormant period. It was found that the optimal time for sowing Ferula assa-foetida L. seeds in the field is in December, when the sowing depth is 0-0.5 cm, high germination is achieved. Ferula assa-foetida, L. grasses form a relatively strong developing root system in the first year of life in a short time (March-May) and end the growing season in early June, like ephemeroid plants.

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Published: February 28, 2021 | **Pages:** 59-65
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The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 66-76
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-10

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

Journal Website: http://usajournalshub.com/index,php/TAJMSPR

Hyperhomocysteinemia And Pathogenetic Mechanisms Of Ischemic Stroke

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ABSTRACT

The article is intended to give basic information and the role of homocysteine in the human body. The amino acid homocysteine is a product of methionine demethylation. When the level of homocysteine increases, it damages the tissue structures of the arteries, initiating the release of cytokines, cyclins and other inflammatory mediators. Its accumulation leads to loosening of the arterial walls, the formation of local defects in the endothelium, which, in turn, leads to the deposition of cholesterol and calcium on the vascular wall. Hyperhomocysteinemia as a consequence of impaired homocysteine metabolism is considered an independent risk factor for stroke in humans. The role of neuroprotective therapy in interrupting or slowing down the sequence of damaging biochemical and molecular processes that can cause irreversible ischemic brain damage is shown.

KEYWORDS

Homocysteine, hyperhomocysteinemia, ischemic stroke, HC metabolism, neuroprotection.

INTRODUCTION

History of the study of homocysteine. In 1932, an outstanding American biochemist and Nobel Prize winner Vincent Du Vigno synthesized a new, previously unknown amino

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 66-76
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-10

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

acid by acting on methionine with sulfuric acid. In 1933, a clinical case of dementia, lens dystopia, and skeletal malformations in an 8-year-old boy was described. The child died from an ischemic stroke. On autopsy, pathologist Tracy Mallory revealed a sharp narrowing of the lumen of the carotid arteries due to a variety of atherosclerotic plaques - "it was atherosclerosis that can be found in the elderly." It is noteworthy that in 1965 the nephew of this child was diagnosed with hyperhomocysteinuria. Later, in 1968, a case of homocysteinuria in a 2-month-old child was described, caused by a defect in methionine synthetase. Autopsy revealed atherosclerotic lesions of all large arteries. At the same time, population studies related to hyperhomocysteinemia began to be carried out. Homocysteine is a sulfur-containing amino acid synthesized endogenously from methionine. HC is not a vitamin and is not part of the proteins of the human body. The exchange of homocysteine is based on two biochemical constants - remethylation and transsulfonation, it is the balance between these mechanisms that determines its level. For the functioning of both pathways, a sufficient concentration of vitamins B1, B6, B12 and folic acid is required, which act as coenzymes in the reactions of remthylation and transsulfonation [4].

Pathological accumulation of HC can be caused by both genetically determined defects in the enzymes involved in the above reactions, and a lack of vitamins B1, B6, B12 and folic acid in the diet. When studying polymorphism for the methylenetetrahydrofolate reductase gene, it was found that 10–16% of the population is homozygous for this variant, and this is characterized by an increased content of homocysteine. Deficiencies in B vitamins are also fairly common, leading to increased levels of homocysteinemia. Thus, the prerequisites are created for the widespread prevalence of hyperhomocysteinemia in the population [2].

With hyperhomocysteinemia, the concentration of low and very low density lipoproteins increases, the production of endothelial relaxing factor and sulfated glycosaminoglycans decreases, and serine proteases are activated. All this leads to the processes of damage to endotheliocytes and elastic membrane. The synthesis of prostacyclin decreases, the growth of smooth muscle cells of the vascular wall and the proliferation of the endothelium are stimulated, the synthesis of thrombomodulin, an endothelial protein, is inhibited, without which the process of activation of natural anticoagulants by thrombin is disrupted. At the same time, the V factor of blood coagulation is modified, as a result, it becomes insensitive to the action of protein C. The above processes lead to an additional increase in the coagulation properties of blood [4].

Thus, the pathogenetic role of hyperhomocysteinemia is twofold: it consists in damage to the endothelium and associated early atherogenesis, as well as in an increased tendency to develop venous and arterial thrombosis.

In numerous population studies, the lower homocysteine level is usually determined rather unambiguously (5mkmol / l), but the upper limit usually varies between 10 and 20 µmol/l - depending on age, gender, ethnic group and characteristics of folate consumption. Depending on the level of homocysteine in the blood, several forms of hyperhomocysteinemia are distinguished:

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severe HHC (> 100 µmol / L), moderate HHC (30-100 µmol / L), mild HHC (10-30 µmol / L).

The results of numerous studies have revealed a clear correlation between the level of homocysteine and the risk of developing cerebrovascular diseases, especially ischemic stroke. A meta-analysis of published works shows that an increase in homocysteine levels is an inducer of atherogenesis. According to rough estimates, a decrease in the level of homocysteine to 10 µmol / L could prevent or delay the development of cerebrovascular pathology in 15–40% of the population. A 25% increase in homocysteine levels (i.e., 3 µmol/L) is associated with a 19% increased risk of stroke. Similar results were obtained from a retrospective analysis of the case histories of 16,849 patients. When reviewing other works, only 7% did not reveal a clear relationship between hyperhomocysteinemia and IS mortality [2].

Hyperhomocysteinemia of moderate severity is found in 42% of patients with cerebrovascular disorders under the age of 50. It has been proven that in men aged 40-50 years, the risk of stroke increases by 4.1 times with moderate hyperhomocysteinemia. And severe hyperhomocysteinemia is the cause of more than half of all cases of ischemic stroke, myocardial infarction and pulmonary embolism in patients under 30 years of age. A number of population studies have shown that hyperhomocysteinemia is recorded in children with ischemic stroke 4.4 times more often than in the control group [1].

The research results of prof. I.S. Zozuli and co-authors. A gradual increase in plasma homocysteine content from the acute period of stroke to the stage of consequences has been shown. Similar results were obtained in the works of Recep Aygal1, Dilcan Kotan (2008), an increase in the concentration of G. in plasma and cerebrospinal fluid from the acute stage of stroke to the consequences was revealed [3].

At the moment, there is no single explanation for this fact in the literary sources. It is possible that not only an increase in the level of homocysteine causes oxidative stress, but also vice versa, i.e. in conditions of chronic hypoxia, conditions are created for the pathological accumulation of homocysteine, possibly due to the depletion of antioxidant systems, thereby leading to the emergence of a "vicious circle".

Thus, the analysis of foreign and domestic literature indicates that impaired homocysteine metabolism is an important factor influencing the onset and course of ischemic stroke, especially in young people. Examination of patients with ischemic stroke, as well as its prevention in young people, in addition to the standard set of diagnostic measures, should include an expanded study of the state of the hemostasis system, immunological tests, to identify and cause hyperhomocysteinemia. High homocysteine levels require therapeutic correction, appropriate diets and medications in order to prevent ischemic stroke in young people.

The amino acid homocysteine (HC), which is a product of methionine demethylation, has attracted particular interest of researchers for about half a century. HC is a sulfur-containing amino acid synthesized endogenously from methionine [13]. HC metabolism is based on two biochemical constants - remethylation and transsulfonation; it is the balance between these mechanisms that determines its level. For the functioning of both pathways, a sufficient concentration of vitamins B1, B6, B12

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and folic acid is required, which act as coenzymes in the reactions of remethylation and transsulfonation [13, 17]. In blood plasma, free (reduced) HC is present in small amounts (1-2%). About 20% is in an oxidized state, predominantly in the form of a mixed disulfide of cysteinyl homocysteine and homocysteine.

Methylenetetrahydrofolate reductase (MTHFR) is a key enzyme involved in plasma GC metabolism, catalyzing the conversion of 5-, 10-methyltetrahydrofolate to 5-methyltetrahydrofolate [30]. HC is an important intermediate in methionine metabolism and causes excessive production of reactive oxygen species [18]. During stress, levels of reactive oxygen species can be dramatically increased, leading to damage to cellular structures. For example, an increased level of HC can induce cell apoptosis. It has been shown that an increase in plasma HC levels is associated with an increased risk of ischemic stroke (IS) [22, 29]. The MTHFR gene is localized on chromosome 1 p36.3, and to date, more than 40 point mutations or point nucleotide polymorphisms have been found in the identified MTHFR gene (Nndle NucLeotide Po (tornybtb, SNPs) [10]. Of these, the most significant mutations associated with IS are C677T (^ 1801133) and A1298C (^ 1801131) [24]. The most frequently studied genetic variant, which demonstrates the strongest association with elevated HC levels, is cytosine substitution (C) to thymine (T) at position 677 of the MTHFR gene (^ 1801133) [11,16]. This mis-sense mutation results in approximately 70% and 35% decrease in the normal enzymatic activity of MTHFR in carriers of the TT and CT genotypes, respectively [21]. Variant A1298C leads to the substitution of glutamate (Ig) for alanine (A1a) at codon 429 in the S-adenosylmethionine regulatory domain of the MTHFR protein [24].

The genetic variant of MTHFR C677T can lead to increased plasma HC levels and, thus, to an increased risk of developing IS [36], which has been confirmed in other studies [22,28]. associated with IS are C677T (^ 1801133) and A1298C (^ 1801131) [44, 66]. The most frequently studied genetic variant, which demonstrates the strongest association with elevated HC levels, is the substitution of cytosine (C) for thymine (T) in position 677 of the MTHFR gene (^ 1801133) [11,16]. This mis-sense mutation results in approximately 70% and 35% decrease in the normal enzymatic activity of MTHFR in carriers of the TT and CT genotypes, respectively [21]. Variant A1298C leads to the substitution of glutamate (Ig) for alanine (A1a) at codon 429 in the S-adenosylmethionine regulatory domain of the MTHFR protein [24]. The genetic variant of MTHFR C677T can lead to increased plasma HC levels and, thus, to an increased risk of developing IS [16], which has been confirmed in other studies [22,28]. associated with IS are C677T (^ 1801133) and A1298C (^ 1801131) [14]. The most frequently studied genetic variant, which demonstrates the strongest association with elevated HC levels, is the substitution of cytosine (C) for thymine (T) in position 677 of the MTHFR gene (^ 1801133) [11,16]. This mis-sense mutation results in approximately 70% and 35% decrease in the normal enzymatic activity of MTHFR in carriers of the TT and CT genotypes, respectively [21]. Variant A1298C leads to the substitution of glutamate (Ig) for alanine (A1a) at codon 429 in the S-adenosylmethionine regulatory domain of the MTHFR protein [24]. The genetic variant of MTHFR C677T can lead to increased plasma HC levels and, thus, to an increased risk of developing IS [5], which has been confirmed in other studies [22]. The most frequently studied genetic variant, which demonstrates the

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Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-10
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According to modern concepts, besides the physiological function, HC has a multicomponent pathogenetic effect. It damages the tissue structures of the arteries, initiating the release of cytokines, cyclins and other inflammatory mediators [9,17,29]. Its accumulation leads to loosening of the artery walls, the formation of local defects in the

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 66-76
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endothelium, which, in turn, leads to sedimentation on the vascular wall cholesterol and calcium [19]. HC is believed to increase the risk of thrombus formation by inducing endothelial damage in the venous and arterial vascular system [29]. HC is a potential procoagulant due to its ability to inhibit antithrombin III, protein C and activate factors V and XII, which is of particular importance for the development of atherothrombotic and cardiogenic ischemic strokes [20,27]. Acting on tissue respiration and causing oxidation of low density lipoproteins and other components of atherosclerotic plaque, HC provokes oxidative stress in endothelial cells [18]. In addition, by inhibiting the enzyme NO synthetase, it blocks the synthesis of nitric oxide, a powerful endogenous vasodilator [14].

The normal HC content in the blood is 5-15 µmol / L. During life, the average level increases by 3-5 µmol/L. This is due to a deterioration in kidney function and other physiological reactions that affect metabolic processes in the body. The level of HC in the blood depends on gender and age: it is higher in men and in older age groups. At the age of 40–42 years in men and women, the difference in the concentration of HC is approximately 2 µmol / L, with average values of about 11 and 9 µmol/L, respectively [17]. There are observations that in patients over 55 years of age the level of HC in the blood is higher than in patients of younger age [10].

A meta-analysis of published studies shows that an increase in HC levels is an inducer of atherogenesis. According to rough estimates, a decrease in HC levels to 10 µmol/L could prevent or delay the development of cerebrovascular pathology in 15-40% of the population [23]. Also, with long-term follow-up for 641 patients in 13 countries for 4.5 years, it was shown that a high level of HC leads to a threefold increase in the risk of developing cerebrovascular diseases and the value of HC is important for determining the prognosis of patients with an already established diagnosis of cardiovascular disease (CVD) [21].

As has been confirmed by many studies, even mild hyperhomocysteinemia (HHC) can increase the risk of developing IS, probably due to the pleiotropic biochemical properties of HC and its effect on atherosclerotic vascular changes [14]. In fact, HC suppresses the production of NO by endothelial cells and platelets and increases the formation of reactive oxygen species due to the release of arachidonic acid from platelets. It also inhibits glutathione peroxidase and thus stimulates endothelial cell proliferation [23].

Elevated plasma HC levels have been associated with the risk of IS in observational studies [25]. Moreover, experimental studies show that an increase in total HC levels aggravates vascular disease [19]. In a study by Han L. et al. [22], which included 5,935 patients, the average HHC levels were 13.60 µmol / L in the group as a whole, in men - 15.96 µmol/L, in women - 11.70 µmol / L. Men had higher levels of HHC and a higher prevalence of HHC than women in different age groups ($p < 0.0001$). It has also been noted that the extent and prevalence of HHC increases with age. IS patients were also further divided into 2 groups based on HC levels (<15 and £ 15 µmol / L). The authors found that after 2.7 years of follow-up, the frequency of IS was 3.82% in patients with essential hypertension, 6, 18% in the HHC group (HC £ 15 µmol / L) and 2.84% in the control group (HC <15 µmol / L). The RR (95% CI) for IS induced by HHC were 2.18 (1.65-2.89), 2.40 (1.56-3.67) and 2.73 (1.83-4.08) for all participants, men and women, respectively. Another study surveyed 5,665 middle-aged UK residents

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(ISSN – 2689-1026)
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evidence linking HC levels with the development of cerebral stroke. With long-term (over 12.8 years) observation, it turned out that the level of HC was higher in the group of 141 men who developed IS than in the control group of the same age. The difference in the relative risk of stroke was 2.8 between individuals with upper and lower quartiles of HZ level. Severe HHC is the cause of more than half of all cases of IS in patients under 30 years of age [48]. HHC of moderate severity is found in 42% of patients with cerebrovascular disorders under the age of 55 years [14].

Case-control studies have shown that elevated HC levels are primarily a risk factor for lacunar stroke [28,30]. In the case of the lacunar subtype, heterogeneity within this subtype has been shown with the strongest associations in these cases with small vessel disease and multiple lacunar infarctions and leukoaraiosis on magnetic resonance imaging (MRI) [23]. Other studies have shown that HC increases the risk of developing both IS associated with small vessel disease and atherothrombotic strokes [28, 41]. High HC levels are associated with carotid atherosclerosis in both elderly and young patients [8,28]. It has been shown that an increase in HC concentration is associated with a more rapid progression of stenosing lesions of large arteries and an increase in the size of atherosclerotic plaques [19].

It has now been shown that elevated HC levels are associated with secondary vascular events and increased mortality after stroke [19]. According to Shi Z. et al. [11], who observed 3,799 patients with the first IS for 48 months and determined the level of HC on the first day after hospitalization, 233 (6.1%) patients died. After adjusting for age, smoking, diabetes, and other CVD risk factors, patients with the highest quartile of HHC (> 18.6 μmol / L) had a 1.61-fold increased risk of death (RR 1.61; 95% CI, 1. 03-2.53) compared with patients with a low quartile of HHC (^ 10 μmol/L). Further analysis of the subgroups showed that this correlation was significant only when atherothrombotic subtype (RR 1.80, 95% CI, 1.05-3.07), but was not significant in stroke with small vessel involvement (RR 0.80, 95% CI, 0.30-2.12). The risk of death associated with stroke was 2.27 times higher in patients in the third quartile of HHC (RR 2.27, 95% CI, 1.06-4.86) and 2.15 times higher in patients in the fourth quartile. (RR 2.15, 95% CI, 1.01-4.63) than those with the lowest quartile of HHC. R. Ssh et al. [21] also reported that patients with the highest HHC quartile had a significantly increased risk of mortality in IS (RR 4.35, 95% CI, 1.12-16.9) compared with patients with the lowest quartile.

The basis of AI therapy is two directions: reperfusion and neuronal protection. Reperfusion is associated with the restoration of blood flow in the ischemic zone. Neuronal protection is implemented at the cellular level and is aimed at preventing the death of weakly or almost non-functioning, but still viable neurons located around the heart attack (zone of "ischemic penumbra"). The main methods of reperfusion are thrombolysis. The main methods of neuroprotection include restoration and maintenance of homeostasis; drug protection of the brain and non-drug methods such as hyperbaric oxygenation, cerebral hypothermia. Antithrombotic drugs, including anticoagulants and antiplatelet agents, are required for all patients who have undergone IS or TIA [26]. To date, acetylsalicylic acid (ASA) is the "gold standard" in the prevention of cardiovascular diseases after noncardioembolic IS and TIA [6].

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Persons with identified HHC are advised to follow a diet high in B vitamins (green vegetables, legumes, lean meat, fish, curd restriction), take courses of folic acid and B vitamins, and also control the level of HC, coagulogram, lipid profile 2 times in year. In the acute and subacute stages of IS, when HHC is detected, in addition to conventional therapy, it is recommended to take folic acid and preparations containing high doses of B vitamins, which is a component of secondary prevention of stroke [7].

A recent large-scale study on primary prevention of stroke in China (China Stroke Primary Prevention Trial, CSPPT), which recruited only hypertensive patients, demonstrated a positive effect in reducing the risk of stroke with the use of B vitamins [27]. A secondary analysis in the Vitamins to Prevent Stroke study (VITATOPS) found a borderline effect of treatment with B vitamins in patients with lacunar stroke (hazard ratio 0.80 (95% confidence interval [CI] 0.67-0.96), while MRI The result of therapy was associated with a decrease in the progression of white matter lesion volume in patients with severe white matter lesions [12].

Thus, an increased level of HC is observed in IS, being partly a modifiable risk factor. The pathogenesis of HHC is currently attracting great attention from researchers because early intervention can be beneficial for patients and prevent HHC-induced additional cell damage. A simple blood test that can easily detect HHC can be helpful in screening patients with CVD. The issue of HHC therapy remains controversial and requires further in-depth study.

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(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 77-85
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-11

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2021: 5. 64
OCLC - 1121105510

Journal Website: http://usajournalshub.com/index,php/TAJMSPR

Methodology Of Teaching 18-20 Year Old Girls For Healthy Aerobic Exercises

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ABSTRACT

This article is scientifically and pedagogically based on the ways to increase the physical activity of 18-20 year old girls based on the development of a comprehensive program of fitness aerobics.

KEYWORDS

Health, aerobics, step aerobics, shaping, aqua aerobics, non-traditional types.

INTRODUCTION

Health is not only related to physical education, but also to the proper formation of students' motor activity, the harmonious development of the individual in all respects.

Unfortunately, the movement of modern schoolgirls is not enough. As a result, a high susceptibility to various diseases is noted. Of course, this tendency is not hereditary, but is the result of not exercising and not attending physical education classes. Only 40-60% of movement requirements are met in physical education classes, less than 25% of students are

The American Journal of Medical Sciences and Pharmaceutical Research
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involved in regular physical education and sports activities, and 30-35% of girls are engaged in extracurricular physical education activities.

Lack of exercise is very dangerous during the growth and formation of the organism. This means that a large proportion of modern pupils and students have a variety of persistent diseases, and physical development and preparation often do not meet age standards.

One of the ways to increase the effectiveness of physical education classes in educational institutions is to increase the activity of students by introducing new types and forms of physical education that meet the needs of women and are more popular among girls and women.

Among the many different tools used for this purpose, basic gymnastics is the main basic physical education in educational institutions. In addition to rigorous gymnastics exercises, one of the most popular types of physical activity among schoolchildren is health aerobics, which is the most convenient way to engage girls in physical education.

The initial development of training for all is aerobics, which is a health-improving exercise - the beauty of movement, plasticity, aesthetic development of a creative approach - increases physical and functional fitness, strengthens health.

A number of studies have been conducted in the following areas: step aerobics [4,5], power types [2,6], shaping [3,44], aqua aerobics [1,4], non-traditional types [3].

Studies on the effects of health-improving aerobics on the body of trainees (VNSeluyanov 2001 :, TSLisistkaya 2002 :, VSCheburaev 2002, etc.) show that complex training is the most popular among young people. 'lib includes a variety of tools.

However, the small number of developments in this area does not have a systematic description:

First of all, there are no suitable aerobic means for athletes with different levels of training;

- secondly, there is no developed methodology for conducting and teaching classes in the form of main and additional activities in class and out of class time;
- Thirdly, the complex programs used in the practice of sports and health centers are very complex.

The challenges of engaging 18-20 year old girls with fitness types of aerobics are very relevant and require experimental research to determine their effectiveness.

THE PURPOSE OF THE WORK

To increase the physical activity of girls aged 18-20 years through the development of complex programs of health aerobics.

THE TASK OF THE RESEARCH

To study the features of aerobics in different disciplines.¬

Determining the level of physical fitness and physical development of 18-20 year old girls.¬

To determine the effectiveness of health aerobics programs for girls aged 18-20 in experiments. .¬

RESEARCH METHODOLOGY

1. Analysis of literature sources.

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2. Questionnaire.

3. Pedagogical observation.

4. Anthromometric measurement.

5. Methodology of control tests.

6. Pedagogical experience.

7. Methodology of mathematical statistics.

As with all sports, we face training challenges in all activities related to long-term activity in fitness aerobics.

The most important thing for aerobics coaches is to teach the trainees not only to move nicely, but also to perform the exercises correctly. Therefore, the problem of proper training remains relevant even in the simplest movements in aerobics.

The complexity of the tasks grows as we face a lack of time in fitness classes. Typically, participants try to achieve the desired results in training 2-3 times a week: to lose weight, improve body proportions, improve health, create satisfaction. The study is carried out in a step-by-step manner, while maintaining the flow-based approach, i.e., being able to clearly explain the exercise technique, quickly detecting errors, and correcting them immediately; the coach should be careful in understanding and reprimanding the learner [2, 4].

An analysis of the specialized literature [1, 9,11] shows that teaching exercises is a pedagogical process that requires the teacher and the student to organize the actions in a planned and methodologically correct manner. It focuses on the main tasks of teaching. The formation of movement knowledge and skills of students, the complex development of physical qualities is the education of spiritual and volitional qualities.

Fitness aerobics training varies according to the choice of equipment, the norms and sequence of individual exercises, as well as the pace of their implementation. However, different types of training are subject to the same form and structure [2, 4].

The largest structural unit is the complex, which in turn is divided into parts, and the parts are divided into smaller series and form a chain of exercises. Combinations and links are made from the exercises.

According to a number of authors [2,4,5], fitness aerobics classes are aerobics classes in which the learning process is led by a qualified instructor.

Like all classes, aerobics class consists of preparation, basic and final parts. Yu.V.Menkhin, A.V.Menkhin (2002) The structure of aerobics classes is on average 60 minutes, the duration of the preparatory part is 5-10% of the total training time; main part-80-85%; and the final part is estimated to be 5-15%.

With enough exercise, a 60-minute session can take up to 90 minutes. (O.A.Lomova 2002, M.L.Juravina, N.K.Menshikova 2002, J.K.Kholodov. V.S.Kuznestova 2002).

As in sports, the process of training in fitness aerobics involves a clear system of trainees and instructors. These actions have a conscious connection and are distributed sequentially over time. The sequential solution of specific tasks of education is based on the possibility of division into separate stages [2,4,7,].

Phase III of the training process is divided into:

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Stage I - teaching the basics of exercise techniques, the formation of knowledge to perform it, albeit in a rough form;

Phase II - in-depth training - to improve the initial mastery of the technique;

Phase III - strengthening and subsequent improvement - repeated performance of exercises in accordance with the level of development of individual characteristics.

Based on the research [4,3], the general principles of training, which are used only in sports and aerobics, are distinguished.

According to LM Dikarevich (1996) and Yu.K. Gaverdovsky (2001), the general principles include:

1. The principle of lightness;

2. The principle of consciousness and activism;

3. The principle of demonstration;

T.S. Lisistkaya (2002) identified specific principles that apply only to aerobics;

1. The principle of "no harm";
2. The principle of biological commonality;
3. Program-goal principle;
4. Principles of integration;
5. The principle of individuality;
6. The principle of sexual differentiation;
7. The principle of age change in the body;
8. The principle of generalization of beauty and aesthetics.
9. The principle of harmonization of valuable target systems:
10. Principles of biorhythmic structure;

At each stage of the training, the tasks are solved sequentially using specific methods and techniques. Before teaching a new exercise, the teacher must have a complete program of actions ahead.

In health aerobics, two methods of training are used: integral and fragmented (Yu.V.Menkhin, A.V.Menkhin 2002).

Relatively light movements, such as walking, paired steps, and their types, are taught in a holistic manner. Movements in the form of various "extra" arm movements require fragmentation [5,7].

Partitioning techniques are also used to teach different dance and complex coordination movements [4,11,7].

Learning new moves should be done in a consistent, regular manner. Combinations, on the other hand, consist of elements that have been sufficiently mastered [6,7].

A number of authors [3,4,5] have identified the following as the main methodological methods in teaching:

1. Quick comment and explanation.

The coach's instructions are very important during the training process. M.P. According to Ivliev (1987), these guidelines play the role of external management. It allows participants to get a quick idea of their personal actions.

2. Visual management of the group.

The American-designed group management system makes it much easier to conduct fitness aerobics classes.

In addition, when performing strength exercises with different types of amortization, weights, equipment, mainly on the ground floor, various forms of fixations are often used, which help to strengthen the correct position,

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which is characteristic for this or that exercise phase.

Pedagogical methods have been developed, such as increasing the intensity at the expense of amplitude, switching to high-intensity movements at the expense of amplitude, switching to low intensity, the rate of execution of elements of movement from place to place (in each calculation, tactile range, etc.). allows.

3. Demonstration of exercises.

Simple coordinated movements can be performed with the left arm and leg facing the trainee, and complex movements can be performed with the trainee standing behind the trainee.

At the same time, prolonged back-to-back exercise can have a negative effect on some people.

4. Symmetrical teaching.

According to LM Dikarevich (1996), actions must be performed equally on both sides. Loads of different sizes help the body to develop in all directions.

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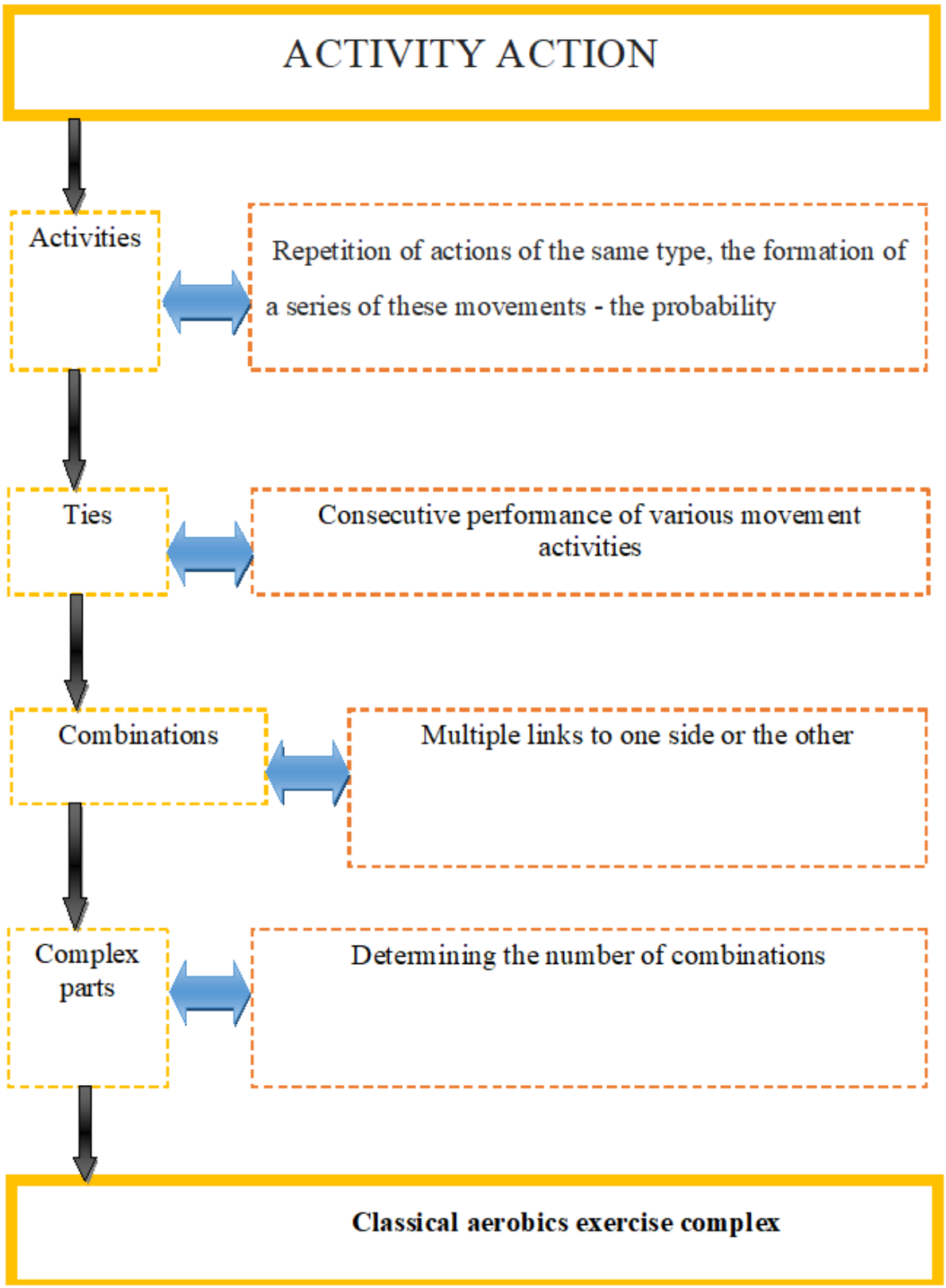

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S.Rosensteveich (1988) recommends taking into account the interrelationships of the following movements in the organization, planning and teaching of classical aerobic exercises:

1) At the initial stage of mastering new movements, the effectiveness of the positive interaction of actions will be greater.

2) In the selection of similar movements (pairs, groups) and their characteristics in relation to simultaneous learning of movements, attention should be paid only to the form (external signs), although the structure of the movement should be evaluated in detail, in particular their quantity, indicators: amplitude, time, power, speed, rhythm, etc.

According to many leading experts, in order to study the process reliably, the following requirements must be met:

1. To define the purpose of the set of operations to be taught and mastered.

2. To divide the learning materials by operations according to the level of complexity.

3. To carry out regular quality control on the mastery of standardized materials by student-teacher feedback.

4. Flexible differentiation of training based on the quality of the materials mastered, with adaptation to the pace of work and the complexity of the given materials.

5. Usage of special teaching aids and curriculum.

T.S. Lisistskaya (1994) considers it expedient to identify the movement materials used in health aerobic training in the following sequence of mastering:

They are usually used interchangeably, that is, the presentation is done with a commentary. It is widely used to show the exercises to the trainees in the back or in the mirror.

Emphasis is also placed on individual action phases. Demonstrations must always be accompanied by calculations and methodological comments. It is necessary to establish visual control over the participants.

In summary, the analysis of special literature and questionnaires shows that aerobics is the most popular form of fitness and its programs should be gradually updated. However, the scientific recommendations are mainly for specific types of aerobics. Scientifically developed areas of aerobics are designed for a trained contingent. There is no one-size-fits-all health program for students.

In order to increase the physical fitness of girls, it is recommended to use aerobics program in training sessions, effective distribution of aerobic means and health.

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European Journal of Research and Reflection in Educational Sciences Vol. 8 No. 11, 2020 ISSN 2056-5852. 110-114 pg. https://www.idpublications.org/wp-content/uploads/2020/11/Full-Paper-CHARACTERISTICS-FORMS-AND-METHODS-OF-EXTRACURRICULAR-ACTIVITIES-WITH-ATHLETES-OF-DIFFERENT-AGES.pdf

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The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 86-90
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-12

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

Journal Website: http://usajournalshub.com/index,php/TAJMSPR

Features Of Endotracheal Anesthesia

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ABSTRACT

This article is devoted to giving a complete overview of the various diseases that the human body in life experiences through the respiratory tract.

KEYWORDS

Artificial ventilation of the lungs, components of this method of anesthesia

INTRODUCTION

Intubation (endotracheal) anesthesia is the immersion of the body in a state of deep narcotic drug sleep in combination with complete relaxation of the muscles and the lack of spontaneous breathing. To achieve this depth of pain relief, several components are needed. Therefore, its full modern name is combined intubation endotracheal anesthesia. The main components of this method of anesthesia are:

Intubation of the trachea - the introduction of an endotracheal tube into the lumen of the

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IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

trachea, through which artificial ventilation of the lungs will be carried out while a person is in a narcotic sleep.

Patients often ask why gas should be injected into the lungs through a tube when a mask can be used. Many advantages of this method lie precisely in the possibility of interaction of the anesthetic apparatus directly with the respiratory organs - it actually "breathes" for a person, carrying out ventilation of the lungs with a mixture of gases - oxygen and anesthetic substance. Thanks to this, the doctor can carry out the operation as much as necessary, without limiting himself in time.

Intubation anesthesia is performed using an apparatus that monitors all vital body functions during the operation and automatically varies the concentration of the supplied gas. This eliminates risks such as a sudden withdrawal of the patient from sleep or a deterioration in his health due to an increased concentration of anesthesia.

In addition, endotracheal anesthesia provides the following options:

The accuracy of the dosage of drugs, which cannot be achieved with mask anesthesia;

The ability to adjust the intensity of pulmonary ventilation to change the blood gas composition;

Good patency of the respiratory tract. During intubation, patients are not threatened with sinking of the tongue, the patient will not choke on saliva, blood or food masses;

The possibility of bronchopulmonary sanitation (through a special catheter, sputum, pus, accumulated mucus can be removed);

The possibility of the simultaneous use of muscle relaxants, which reduce the risk of bleeding and relax the muscles.

The last point is especially important for the surgeon. With other methods of anesthesia, without connecting the patient to a breathing apparatus, significant relaxation of the muscles will lead to respiratory arrest. And some operations, for example, microsurgical ones, require exactly the maximum relaxation of the muscles - just in this case, endotracheal anesthesia is suitable.

Indications and contraindications for intubation anesthesia. The choice of the method of anesthesia is always the responsibility of the surgeon. His task is to determine the most gentle and reliable option, taking into account the characteristics of the patient's body, his weight, age, etc. A number of operations do not allow using this method, since it is important for the doctor that the lungs are in a relaxed (compressed) state, while the gas greatly inflates them.

Endotracheal anesthesia is recommended:

With prolonged (from 1 hour) complex surgical interventions;

In cases involving possible respiratory arrest (which will lead to the death of the patient);

With threats of suffocation (swelling of the throat, laryngospasm, emergency intervention with a full stomach, etc.);

During ENT operations, during which it is necessary to protect the respiratory tract from the ingress of blood and saliva;

With interventions on the thyroid gland, neck, head, face;

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IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

For microsurgical operations requiring absolute relaxation of the body, etc.

There are no absolute contraindications to endotracheal (intubation) anesthesia. It is used with caution in acute respiratory diseases, diseases and malformations of the respiratory tract, making the introduction of an endoscopic tube dangerous or very difficult, in acute renal and hepatic pathologies and in myocardial infarction.

How endotracheal anesthesia is performed

Before anesthesia, premedication is carried out - drug preparation of the patient. In the evening, the patient is given sleeping pills or tranquilizers, which relieve spasms caused by fear and nervousness. In the morning, drugs are injected that reduce saliva production and inhibit the function of the vagus nerve.Because it is an invasive and uncomfortable medical procedure, intubation is usually performed after administration of general anesthesia and a neuromuscular-blocking drug. It can, however, be performed in the awake patient with local or topical anesthesia or in an emergency without any anesthesia at all. Intubation is normally facilitated by using a conventional laryngoscope, flexible fiberoptic bronchoscope, or video laryngoscope to identify the vocal cords and pass the tube between them into the trachea instead of into the esophagus. Other devices and techniques may be used alternatively.

After the trachea has been intubated, a balloon cuff is typically inflated just above the far end of the tube to help secure it in place, to prevent leakage of respiratory gases, and to protect the tracheobronchial tree from receiving undesirable material such as stomach acid. The tube is then secured to the face or neck and connected to a T-piece, anesthesia breathing circuit, bag valve mask device, or a mechanical ventilator. Once there is no longer a need for ventilatory assistance or protection of the airway, the tracheal tube is removed; this is referred to as extubation of the trachea (or decannulation, in the case of a surgical airway such as a cricothyrotomy or a tracheotomy).

Removable dentures are removed from the oral cavity - they can interfere with the introduction of the apparatus tube. Before surgery, a tube is inserted into the trachea (intubation). This moment passes absolutely painlessly, since the anesthesiologist preliminarily introduces intravenous anesthesia and relaxing drugs (muscle relaxants), and the person falls asleep. Before inserting the endotracheal tube, the doctor covers the patient's teeth with special pads and applies other measures to protect the oral cavity from injury. For endotracheal anesthesia, the latest drug Sevoran is used, which is characterized by minimal side effects. It is quickly eliminated from the body without causing complications.

Anesthesia drugs are injected into the respiratory tract by the method of standard inhalation anesthesia using a device, for example, Fabius Tiro, which takes into account all indicators of the patient's condition. For endotracheal anesthesia, the newest drug Sevoran is used, which has minimal side effects. It is quickly eliminated from the body without causing complications. After the end of the operation, the patient is taken out of anesthesia and when he begins to breathe, the tube is removed. The anesthesiologist does not leave the patient until he fully regains consciousness and his health is restored.

Possible complications

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IMPACT FACTOR
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This type of anesthesia can be accompanied by the introduction of various drugs, their choice depends on the type of operation and the patient's material capabilities. In addition, the duration of drug exposure should be considered. After awakening, patients may feel the unpleasant consequences of general anesthesia associated with intubation and the action of the drugs themselves:

Nausea and vomiting;

Pain, swelling, or dryness in the throat, mouth;

Weakness, headache, and dizziness;

Mood swings;

Manifestations of allergies (rash and itching).

All manifestations are quite tolerant and pass quickly.

Endotracheal anesthesia helps to endure even a very complex operation without worry, pain and psychological stress. The safest option for general anesthesia is widely used in laparoscopic operations and in thoracic surgery, in cardio and neurosurgery. It is also used in plastic surgery during aesthetic and reconstructive operations.

Anesthesia can be local or general. Local anesthesia is used in minor surgery. For example, when removing papillomas, wen and moles, or when reinforcing the face. With local anesthesia, the patient is awake, but the operation area completely loses sensitivity.

General anesthesia is necessary for long and difficult operations. Under general anesthesia, the patient is immersed in a state of drug-induced sleep, and vital functions - breathing, cardiac activity - are controlled by an anesthesiologist. Anesthesia is always general anesthesia. The terms "local anesthesia" or "general anesthesia" are meaningless, although sometimes they can be found in publications and in everyday speech.

Intravenous administration of narcotic anesthetics, tranquilizers, sedatives (thiopental, recofol, sibazone, fentanyl). The introduction of muscle relaxants - drugs that block neuromuscular transmission, due to which complete relaxation of the striated muscles, including the respiratory one, is achieved. Potentiation of narcotic sleep with inhaled narcotic drugs. Recently, intubation anesthesia has rarely been supplemented with this component. Artificial ventilation of the lungs - the implementation of gas exchange in the body due to the ventilator.

Stages and drugs used

Multi-component anesthesia requires strict adherence to the staging of the procedure. The anesthesiologist-resuscitator interferes with the physiology of the cardiovascular and respiratory systems and uses potentially lethal drugs for purposes that are not initially curative. All stages are very important, so every little thing should be considered. Coming out of medication sleep or waking up are no less important stages than introducing or maintaining it. The direct procedure for endotracheal anesthesia is represented by:

Premedication - preparing the patient for immersion in medication sleep. Promedol, fentanyl, sibazon are used. Prevention of cardiac disorders during pain relief is represented by the administration of atropine;

Introductory anesthesia - the direct introduction of the brain into a narcotic sleep with the help of barbiturates. Thiopental, hexenal, callipssol are used. All of them inhibit the function of the respiratory center;

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IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

therefore, they are introduced gradually under the strict control of oxygenation;

Muscle relaxation - complete muscle relaxation. After the patient falls asleep and the body is adequately oxygenated, the relaxant ditilin is introduced, which is necessary for tracheal intubation. Long-term maintenance of relaxation is achieved by the introduction of arduan;

CONCLUSION

Endotracheal intubation - the introduction of a special plastic tube of the required diameter into the trachea. With its help, a free supply of a gas mixture of a certain composition and concentration to the lungs is carried out. At the end of the tube there is an air cuff that tightly overlaps the entrance to the airways, which prevents foreign objects from entering them (first of all, vomit);

Awakening - a gradual return of consciousness and spontaneous breathing. Only after full confidence in their presence can the endotracheal tube be removed.

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The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 91-95
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IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

Journal Website: http://usajournalshub.com/index,php/TAJMSPR

Caries: Diagnostics And Treatment

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ABSTRACT

Caries is a process of destruction of hard tooth tissues, which occurs with the participation of cariogenic bacteria in the oral cavity (in the composition of dental plaque), as well as food residues processed by them. The organic acids produced by the bacteria gradually destroy first the enamel of the tooth and then the underlying dentin. As a result, a carious cavity is formed in the tooth, the walls of which are filled with soft decay of decaying dental tissues and a large number of cariogenic bacteria. The following article looks into the reasons leading to dental problems, its diagnostics and treatment methods.

KEYWORDS

Dental caries, cavity, diagnostics, higeine, malnutrition, tooth tissue.

INTRODUCTION

Dental caries is a typical pathological process formed in the course of evolution as a response of the hard tissues of the tooth to various factors of influence, which gradually lead to the formation of a dental defect in the form of a cavity. The causes of caries are reduced to two etiological factors:

The American Journal of Medical Sciences and Pharmaceutical Research
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IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

Common factors:

The lack of a whole complex of vitamins and minerals leads to disorganization of the tooth structure. At the same time, a huge role is played by the pathological effect of easily digestible carbohydrates, the nature and mode of nutrition, as well as the fluoride content in drinking water. Somatic diseases directly related to the development and formation of the tooth and its elements, which can cause functional and structural changes.

The influence of damaging environmental factors that have an extreme impact on the microorganism (overheating, frostbite, etc.). Hereditary factors associated with the full formation of the structure and chemical composition of tooth tissues.

Local factors:

Dental plaque rich in microorganisms;

Exposure to the composition of the oral fluid, which can change as a result of various diseases;

The consistency of local protective mechanisms of tooth tissues, their resistance (stability).

The condition of the pulp is the connective tissue that fills the cavity of the teeth.

Normal laying and maturation of the dentition.

Deviations in the biochemical composition of tooth tissues.

Some sources distinguish the neurotrophic theory of the development of caries, the theory of protheliosis and chelation, Miller's theory, and Lukomsky's theory. These theories are outdated and not relevant at the moment. Caries can occur at any age. Most often, it gradually appears in adults at 35-44 years old. Children are especially prone to caries, since the enamel of milk teeth is much more sensitive than the enamel of molars.

The reasons for the development of pathology in children

The reasons for the development of caries in children are the same as in adults, but caries in children develops rapidly. The reason for the rapid development is the demineralized immature enamel of children. Caries is usually white - it develops so quickly that it does not have time to stain with pigment. Due to immature dentin, if caries has moved beyond the enamel boundary, the child will certainly develop pulpitis.

Tooth decay symptoms

It is important to understand that the appearance of caries can be either an acutely ongoing process or a chronically developing one. In the first case, we are talking about a hereditary failure of the strength and stability of the tooth tissues. The chronic process arises as a result of prolonged exposure to local and general damaging factors. As a rule, the disease occurs gradually, since compensatory-adaptive mechanisms protect the body from unpleasant symptoms for a long time. However, at some point, they still fail, and the first signs of caries appear in the form of unpleasant sensations in the oral cavity when eating cold, hot, spicy, sour or sweet food. Further progression of the disease leads to the development of dental plaque and tartar, which worsen the condition of the oral cavity.

Another important symptom is the presence of carious spots, which are at first isolated, but gradually their number and area increases. The color of the tooth itself is not changed, with

The American Journal of Medical Sciences and Pharmaceutical Research
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IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

the exception of the affected area. With a slow course of the carious process, the affected area is colored yellow or dark brown. With the rapid course of caries, which is more often observed in children due to the increased permeability of the tissues of milk teeth and the individual reactivity of the body, the affected areas are light. The mucous membrane in the surrounding tissue of the tooth is not changed during caries, tapping on the tooth is painless.

Various carious spots

The clinic of carious lesions is also characterized by the occurrence of localized pain when exposed to an irritant, after the elimination of which the pain quickly subsides. This symptom occurs when tooth decay invades the dentin. [five]

Penetration of caries into dentin

Tooth caries pathogenesis

Currently in medicine there are a huge number of theories of the onset of caries. The generally accepted is a polyfactorial theory, according to which the demineralization of hard tooth tissues proceeds under the influence of microorganisms that accumulate in dental plaque. [5] The result of their vital activity leads to the formation of organic acids that destroy the protective elements of the dental tissue.

General diagnostic methods:

Examination and questioning of the patient. Despite its simplicity, it is of great importance and requires the care and knowledge of a doctor. The dentist conducts an examination using a mirror, carefully examining each tooth for the presence of carious cavities and stains, as well as a changed tooth color. During the questioning, the dentist must find out what complaints the patient has made, learn about the presence of pain, under what conditions they arise and about their nature.

Percussion. Tapping allows the doctor to form an idea of the nature of pain, its irradiation and localization, as well as to identify compaction, granulomas, etc.

Probing. This diagnostic method is a more advanced examination method. It is performed using a special device - a probe, which allows the doctor to more accurately determine the degree of caries and its localization.

Thermal test. It belongs to the most accessible diagnostic methods, as it is carried out using a stream of cold water or cotton balls soaked in special solutions. The thermal test allows you to understand the degree of tooth pain and to check the stability of the dental tissue in response to a cold (most often) stimulus.

Additional diagnostic methods:

Electroodontometry. It represents the effect of electric current on the pulp of the tooth, it is needed to determine the state of the pulp (nerve endings) of the tooth. The advantages of this method are in determining the minimum current strength to which the pulp of the tooth reacts. Low values are characteristic for intact pulp, high - for damaged tissue with reduced sensitivity.

Vital staining. This method was proposed by E.V. Borovsky. It is carried out as follows: the tooth is pre-cleaned and dried, then a dye (most often methylene blue) is applied to it, as a result of which carious spots and cavities are colored.

Transluminescence. The study is carried out in a dark room, the dye is previously applied to

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IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

the teeth. Carious formations differ from healthy areas by the presence of dark spheres.

Luminescent method. It is based on the transmission of ultraviolet light through the dental tissue. At the same time, healthy teeth remain light, and those affected by caries become dark.

Determination of the electrical resistance of hard tissues. Due to the loss of mineral components, teeth affected by caries, when exposed to an electric current, have a lower electrical resistance compared to healthy teeth.

X-ray diagnostics. It is one of the earliest and simplest studies. It allows you to identify structural changes in the tooth tissues and hidden carious cavities.

Tooth caries treatment

Dental caries treatments include invasive and non-invasive procedures. Treatment methods for the initial and superficial stages of caries

Non-invasive methods are certainly easier for both the doctor and the patient. Their essence lies in the demineralization therapy of caries (restoration of the mineral balance). However, such treatment is possible only at the initial stages of caries development, when there are still no visible defects, and only the dynamic balance between the content of organic acids and the mineral component of the tooth is disturbed.

Non-invasive methods include treatment with various preparations of calcium, fluoride and other minerals. In practice, the most commonly used drugs are calcium gluconate, remodent, calcium glycerophosphate, calcium hydroxide, sodium fluoride, fluoride gel. The methods of their use are different: from rubbing in a fluoride gel to the introduction of calcium and fluoride preparations into the tooth tissues using electrophoresis. The course of remineralizing therapy consists of 15-20 procedures. Also, an important method of treatment is professional oral hygiene, which consists in cleaning hard-to-reach areas of the oral cavity from nutrient residues.

Medium and deep caries treatment methods

Invasive methods are used in cases where the process of caries formation extends into the deeper layers of the tooth tissues. There are no differences in treatment methods for medium and deep caries. In both cases, "preparation followed by filling" is used. This treatment pursues the following goals: removal of necrotic masses, imposition and fixation of a filling, restoration of the anatomical structure of the tooth. This process takes place in several stages:

Caries treatment with a drill

A standard caries treatment protocol includes the following steps:

Disclosure of a carious cavity using a spherical and fissure bur;

Expansion of the carious cavity to prevent secondary caries;

Necrotomy with subsequent removal of the destroyed and softened dentin;

Giving the carious cavity a geometric shape;

Preventive treatment of the edges of the enamel;

Antiseptic treatment of the cavity;

Filling using an adhesive protocol.

Caries treatment without a drill

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IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

The laser method is used very rarely - instead of mechanical treatment (with a drill), the affected tissues are removed with a laser beam. A standard caries treatment protocol is then followed.

The air-abrasive method is used for fluorosis. The carious cavity is treated with an air jet under high pressure.

The procedure is based on the treatment of the affected surface with ozone. However, there is no convincing evidence that applying ozone to the surface of decayed teeth stops or cures caries.

If caries is in the stain stage, then its development can be stopped with the modern ICON treatment method. Treatment involves the use of three components: acid, alcohol, and a special resin. If the carious lesion is located only within the enamel (there is no dentin lesion), then the microbial invasion between the prisms can be "etched away" and filled with resin, which is photo polymerized after application. The development of caries completely stops.

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The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 96-100
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-14

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

Journal Website: http://usajournalshub.com/index,php/TAJMSPR

Optimization Of Surgical Tactics For Treating Patients With Midrace Trauma

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ABSTRACT

The management of midrace trauma continues to challenge maxillofacial surgeons. The complex local anatomy and functional and cosmetic importance of the region make precise surgical correction and reconstruction essential to success. The following article aims at looking for ways for treatment of the surgery.

KEYWORDS

Midrace surgery, fracture, post-traumatic deformity, inflammatory complications.

INTRODUCTION

Fractures of the lower wall of the orbit occur as in combination with damage to the bone - mid-zone target skull, and in isolation. The reasons are fractures are an increase in intraorbital pressure, as a result of which the edges of the orbit remain are intact, and its lower and dialed wall. For fractures of the lower wall orbit, there is an increase in its volume due to a change non-parameters of the maxillary sinus and walls lattice labyrinth. In this case, the paraorbital cellulose can move and penetrate into the perisinuses, which leads to a change in

The American Journal of Medical Sciences and Pharmaceutical Research
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IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

position the eyeball, impaired mobility, and when preservation of eye function - to double vision.

Diagnosis of damage to the middle zone of the face in modern conditions necessarily include beam research methods. Quite often clinical the picture with fractures of the lower wall of the orbit is it is lubricated. With a small amount of damage or as a result of post-traumatic edema in patients there may be no complaints from the organ of vision in those several weeks after injury. In some cases there are no clinical signs of a fracture. Rent genography in classical projections may not give enough information about the nature of the damage eye sockets, and underestimating the severity of the injury can lead to the development of post-traumatic deformities and persistent disorders of binocular vision.

In order to replace defects in the lower wall of the eyes women use auto- and allografts, as well as various non-biological materials. Auto trans plantations represented by the ideal scallop bones, areas of the cranial vault, antero-wall of the maxillary sinus, the supraorbital edge of the frontal bone, part of the frontal process of the upper lusty, ear cartilage, etc., have a number of advantages (low - risk of inflammatory complications - and rejection), however, there is a possibility of their desorption, fracture or displacement. It is necessary note the increase in the duration of the operation, and an increase in its trauma due to the need additional accesses. Application of all cartilage or allograft allows you to avoid creating an add the surgical field and simulate the transplant ate. The disadvantages here are the tendency material for desorption, the possibility of septic complications, it is also necessary to remember about the possibility the rate of infection with the human immunodeficiency virus and other infections.

Wide application in dental surgery received non-biological implants walking - silicone, bioactive glass, materials on based on polyethylene, metals, etc. However, not all of them possess sufficient biocompatibility, elastic stability and stability without additional fixation. There is no bone integration here, but the formation fibrous tissue on the bone-implant border does not provide a strong enough bond.

Treatment of injuries of the maxillofacial area without surgery. Patient management begins according to the ABCDE protocol (airway, airway patency; breathing, breathing; circulation, circulation; disability, neurological status; exposure, environment). To maintain airway patency, naso- or or tracheal intubation may be performed, but blind nasotracheal intubation should be performed with caution. When installing a nasotracheal tube, bleeding from the vessels of the nasal cavity or nasopharynx can be provoked; in a stunned patient with a fracture of the base of the skull, the tube may enter the cranial cavity. As in all cases of facial injuries, in case of trauma to the maxillofacial region, airway patency is ensured as quickly as possible. further increase in soft tissue edema for several hours can make intubation extremely difficult and even impossible. The need for an emergency tracheotomy is rare, with the exception of fractures of the larynx and situations in which orotracheal intubation is impossible due to severe edema or bleeding. Semi-selective tracheotomy in the operating room is performed for those patients who, due to a pronounced deficit of consciousness, severe injuries of bones and soft tissues, require prolonged intubation. In order to replenish the

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 96-100
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-14

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

volume of circulating blood, intravenous administration of fluids is carried out; with significant blood loss, erythrocyte mass is transfused. Antibiotics are given to prevent infection, especially in patients with severe soft tissue damage or open fractures. Tetanus prophylaxis is in progress. With severe pain syndrome, analgesics are prescribed, either oral or intravenous, depending on the patient's condition. There is no consensus on the tactics of managing patients with progressive loss of vision, since it is still unclear in what cases emergency decompression of the orbit leads to an improvement in prognosis. If the eyeball is tense, lateral canthotomy and cantolysis are urgently performed to eliminate the holding force of the eyelids.

If a specific cause of the compression can be seen on CT, an urgent operative decompression is indicated. All patients are given high doses of corticosteroids; surgical methods of treatment are indicated only with progressive loss of vision. b) Surgical treatment of the maxillofacial area without surgery. Fortunately, cosmetic defects after an incomplete or poorly performed facial bone reduction are rare, but their severity can be very serious. Small cosmetic defects are quite common, however, in modern society a "good" aesthetic result is considered insufficient, and patients demand perfection from the doctor. The main reasons for the unsatisfactory result are the wrong choice of the surgical approach, intervention too early or too late, and insufficient alignment of bone fragments. Most facial fractures in adults require open reduction with internal fixation of the fragments. In some cases, for example, with fractures of the bones of the nose or lower jaw, closed reduction is sufficient.

1. Treatment of a fracture of the frontal sinus. Fractures of the anterior and posterior walls of the frontal sinus without displacement of the fragments do not require active treatment. Fractures of the anterior wall with displacement of fragments (more than half the width of the anterior wall) lead to the appearance of a cosmetic defect; therefore, bone fragments should be repositioned. Displaced fractures of the posterior wall often lead to complications: rhinoliquorrhea and / or the formation of an intracranial hematoma. In such fractures, either open reduction is used, followed by obliteration of the sinus with adipose tissue of the anterior abdominal wall, or, in the most severe cases, the posterior wall of the sinus is removed, as a result of which the brain moves into its lumen (cranialization). Fractures of the frontal sinus, combined with fractures of the walls of the frontal-nasal duct, with a high degree of probability lead to duct stenosis and subsequent mucocele formation, therefore, with these types of injury, the sinus must be obliterated. For small fractures of the anterior wall, access can be provided through existing skin defects, but most often either bicoronary or hemicoronary access is required.
2. Treatment of a fracture of the zygomatic-eye complex. The standard treatment tactics for fractures of the zygomatic-eye complex is open reduction with internal fixation of the fragments. Three-point fixation is preferable with the help of which it is possible to achieve a reliable attachment of the fragments and matching their edges. Usually, fixation is performed through the following areas: fronto-zygomatic suture (depending on the

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IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

circumstances, use the upper or lower blepharoplastic access, or hemicoronary access); infraorbital duta (either transconjunctival or lower blepharoplastic access); zygomatic-maxillary support (access through the oral cavity, incision but transitional fold of the upper lip). For single isolated fractures of the zygomatic arch, the Gillies approach is used, soft tissues are exfoliated under the temporal fascia from the temporal fossa, after which the elevator is installed below the zygomatic arch. By definition, this approach is an open reduction of the zygomatic arch without internal fixation. In case of comminuted fractures, an open reduction with fixation of fragments is required; access to the zygomatic arch is provided through a hemi coronary incision, the tissues are exfoliated deeper than the temporoparietal fascia. Indications for surgical treatment for fractures of the bottom of the orbit are significant fractures with damage to more than 50% of the bottom of the orbit, post-traumatic enophthalmos, restriction of muscle mobility with the development of diplopia. The contents of the orbit that have descended into the maxillary sinus should be returned back, after which the lower wall plastic is performed with a bone or cartilage graft, or alloplastic material. Transconjunctival access.

3. Treatment of fracture of the naso-orbital-ethmoid complex. Fractures of the naso-orbital-ethmoid complex require open reduction with internal fixation of the fragments. In type III fractures, the severed medial tendon of the eyelids is sutured or attached with wire either to the opposite nasal bone or to a miniplate. With saddle deformity, a cartilage, bone or alloplastic graft is placed under the nasal dorsum. Access either through an existing traumatic skin incision or bicoronary.
4. Treatment of a fracture of the upper jaw (according to Le Fort). To form a normal bite, it is required to fix the upper and lower jaws with dental splints. Then, successive reduction and fixation of the fragments to the plates is performed either in the direction from the lowest fracture line to the highest one, or vice versa. The most used approaches, which allow manipulation from both sides at once, are access through the midface and access through the buccal groove.
5. Treatment of a fracture of the lower jaw. Just as with fractures of the upper jaw, in order to form a normal bite, it is necessary to fix the upper and lower jaws with dental splints. In case of non-displaced or uncomplicated fractures, for successful recovery, only fixation of the upper and lower jaws (splints, rigid fixation) is sufficient. For fractures with displacement of fragments, or with an unfavorable clinical picture, open reduction with rigid fixation is required. Mini-plates, mandibular plates, or reconstructive plates are used. A lag screw can also be used to fix the fragments. For this, holes are placed in the proximal areas of the bone, into which a standard screw can then be screwed. When the screw thread enters the distal fragment, the screw can be secured to the proximal fragment. The best option for osteosynthesis is to place a single plate along the Champy line, where the compression forces along the lower edge of the jaw are equalized by the abduction (tension) forces along the alveolar arch, but, unfortunately, in most of the lower jaw this line coincides with the course of the lower alveolar nerve. As an alternative

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IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

method, a mini-plate can be placed on the lower edge of the jaw, and a dental metal splint is placed on the lower jaw to ensure proper tension and maximum fixation of the fragments. Previously, in subcondylar fractures, closed reduction with fixation of the jaws was most often resorted to; However, in recent years, there has been a shift in the generally accepted methods of treating such fractures, more and more often they began to resort to rigid fixation through open or endoscopic approaches. In most cases, the access is intraoral (through the gum-buccal fold), but in certain situations it is necessary to resort to open approaches (submental, submandibular, preauricular). As a rule, unstable or non-viable teeth located on the fracture line must be removed, but in all other cases, teeth, even mobile ones, should not be removed, since they are necessary to align the dentition.

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The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 101-105
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-15

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

Journal Website: http://usajournalshub.com/index,php/TAJMSPR

Oral Medicine And Its Classification

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ABSTRACT

Oral medicine is a specialty of dentistry related to the oral health care of patients with chronic, recurrent and drug-related diseases of the oral and maxillofacial area, as well as their diagnosis and non-surgical management. The following article looks into the specific types of oral surgery and the procedures.

KEYWORDS

Oral surgery, esthetic surgery, tooth removal, cyst removal, maxillofacial surgery.

INTRODUCTION

Oral surgery is a dental category that is responsible for the elimination of a wide variety of foci of toothache. The most common therapeutic procedures in the dentist's office are tooth debris removal, removal of the upper and lower wisdom teeth, cyst removal, root removal, and the addition of synthetic bone in place of defects that result from tooth extraction odontectomy cystectomy. Oral surgery refers to any surgical procedure performed in or around your mouth and jaw,

The American Journal of Medical Sciences and Pharmaceutical Research
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Published: February 28, 2021 | **Pages:** 101-105
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-15

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

usually by a dental specialist who's trained to perform certain kinds of oral surgeries.

It should be noted that surgical intervention requires preliminary and thorough preparation, since such procedures can cause a number of risks. It is for this reason that oral surgery should not be considered a routine operation. Absolutely any operation requires local or peripheral trancular anesthesia, and for this reason, every doctor needs to familiarize himself with the medical history of his patient. Standard anesthesia is considered to be quite risky, hence it should be concluded that every doctor needs to carry out treatment as efficiently as possible and not abuse such anesthesia.

Prepare for an oral surgery in the same way you would for any serious medical procedure, depending on the type of surgery. And always make sure to follow your dentist's direction. Start by making sure that the space you're returning home to is clean and neat, so you're comfortable for at least a couple of days, if necessary. Set up your bed so that, if need be, you can sit at an incline. Follow the pre-surgery instructions your oral surgeon gives you. Typically you will be asked to refrain from eating or drinking anything in the 8-10 hours before your surgery.

Arrange for transportation back home, if necessary. Talk to your oral surgeon about what kind of anesthesia you'll be getting. Some types of anesthesia can inhibit your ability to drive. Depending on the type of oral surgery you're having you may have a topical or local anesthetic. If you are having an IV anesthesia, you'll need someone to drive you home.

After the operation itself, there is a period of healing of the oral cavity with completely different durations. Healing may take from one week to several months, depending on the complexity of the intervention. Here, the dentist has the right to determine the need for antibiotic therapy, starting from the general condition of the patient and the complexity of the operation. And the client, in turn, must follow all the doctor's instructions in order to have time to prevent postoperative complications that can lead to extremely unpleasant consequences.

Thus, if you want to pull out a wisdom tooth in Chisinau or use any other surgical interventions, then Life Dental clinic is ready to provide these services at the most affordable prices, providing you with a guarantee for all the work done. Regardless of which procedure you want to choose, even the removal of a molar tooth, even all teeth, our highly professional specialists will cope with any task with a bang.

Oral and Maxillofacial Surgery is a surgical specialty focusing on reconstructive surgery on the face, facial trauma surgery, oral, head and neck, mouth and jaw, and facial cosmetic surgery. Specialty Oral and Maxillofacial Surgeon is a regional specialist surgeon who treats the entire craniomaxillofacial complex: the anatomical region of the mouth, jaw, face and skull, head and neck, and related structures. Depending on national jurisdiction, oral and maxillofacial surgery may require a doctorate in medicine, dentistry, or both. Specializations In the United States, oral and maxillofacial surgeons, regardless of whether they have one or two degrees, can further specialize after residency by completing an additional one-year or two-year single-discipline internship in oral and maxillofacial surgery in the following areas: Facial cosmetic surgery. including eyelid (blepharoplasty),

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IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

nose (rhinoplasty), facelift, eyebrow lift, and laser resurfacing Cranio-maxillofacial injuries, including zygomatic (zygomatic bone), orbital (eye socket) fractures, mandible and nose fractures, and soft tissue ruptures face and penetrating neck injuries Craniofacial / pediatric maxillofacial surgery, including cleft lip and palate surgery, and transcranial craniofacial surgery, including frontal-orbital advancement and remodeling (FOAR) and complete fornix remodeling Free flap surgery for head and neck cancer and microvascular reconstruction Maxillofacial regeneration, that is, the reconstruction of the facial areas using advanced stem cell technology.

Regulation Oral and maxillofacial surgery is an internationally recognized surgical specialty. Whether maxillofacial surgery is a formal medical specialty or a dental specialty depends on the history of the specialty in the respective national jurisdiction, not on the scope or nature of the surgical specialty.

Surgical Procedures In the United States and around the world, treatments can be performed on the craniomaxillofacial complex: mouth, jaw, face, neck, and skull, and includes: Cosmetic head and neck surgery: (Rhytidectomy / facelift, browlift, blepharoplasty / Asian blepharoplasty, otoplasty, rhinoplasty, nasal septum plasty, cheek augmentation, chin augmentation, genioplasty, oculoplasty, neck liposuction, hair transplant, lip enhancement, injection cosmetic procedures such as botox, fillers, platelet-rich plasma, stem cells, chemical peeling, mesotherapy Orthognathic surgery, surgical treatment / correction of dentoalveolar deformity, and treatment of facial trauma and sleep apnea Head and neck cancer surgery with microvessel reconstruction with a free flap Skin malignant neoplasms / skin cancer surgery, surgery for skin grafts and local flaps on the head and Neck Diagnosis and treatment: benign pathology (cysts, tumors, etc.), malignant pathology (cancer of the mouth, head and neck) with (ablative and reconstructive surgery, microsurgery) skin malignant neoplasms (skin cancer), lip reconstruction, congenital craniofacial malformations, such as cleft lip and palate as well as malformations of the cranial vault such as craniosynostosis (craniofacial surgery) chronic facial pain disorders of the temporomandibular joint (TMJ) Orthognathic (literally "square bite") reconstructive surgery, orthognathic surgery, advancement jaw-mandibular joint, surgical correction of facial asymmetry. soft and hard tissue trauma to the oral cavity and maxillofacial region (jaw fractures, cheek bone fractures, nasal fractures, LeFort fracture, skull fractures and orbital fractures). Dentoalveolar surgery (surgery to remove impacted teeth, complex extraction of teeth, extraction in patients with disabilities, bone grafting or pre-prosthetic surgery to improve the anatomy for the installation of implants, dentures or other dental prostheses) Surgery to install osseointegrated (bonded to the bone) dental implants and maxillofacial implants for the attachment of craniofacial prostheses and hearing aids with bone fixation.

There are three main, interrelated aspects of the practice of oral medicine: clinical care; education; research

Oral medicine is a specialized clinical area of care for the treatment of head and neck disorders. In some cases, mouth symptoms and signs reflect problems other than the mouth. In some cases, mouth symptoms may be indicative of a link to illness or problems in other parts of the body, and it is the oral

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2021: 5. 64
OCLC - 1121105510

medicine practitioner who is best placed to decide which tests or studies are needed in these situations.

ORAL AND MAXILLOFACIAL RADIOLOGY

Oral X-rays are commonly referred to as X-rays. Dentists use radiographs for many reasons: to find hidden dental structures, malignant or benign masses, bone loss and cavities. Oral and maxillofacial radiology, also known as dental and maxillofacial radiology, is a specialty of dentistry that deals with the presentation and interpretation of diagnostic images used to examine the craniofacial, dental and related structures. Dentist barclay treats teeth.

ORAL DIAGNOSTICS

Oral diagnostics is the field of dentistry dedicated to the compilation and study of the patient's medical history and detailed clinical examination of oral tissues and radiographs to assess the health of the oral cavity in order to develop a treatment plan to restore tooth structure and proper occlusion, as well as to promote healing and improvement. oral health.

Pediatric pathology

Oral and maxillofacial pathology (also called oral pathology, dental disease, dental disease or mouth disease) refers to diseases of the mouth ("mouth" or "stoma"), jaws ("maxilla" or "gnatu"), and related structures such as salivary glands, temporomandibular joints, facial muscles, and perioral skin (the skin around the mouth). The mouth is an important organ with many different functions. He is also susceptible to various medical and dental ailments.

ORAL DENTISTRY

Oral dentistry is a branch of medicine that participates in the research, diagnosis, prevention, and treatment of diseases, disorders and conditions of the oral cavity, usually in the dentition, as well as the oral mucosa and adjacent and related structures and tissues, especially in the maxillofacial (jaw and facial) areas.

ORAL REHABILITATION

Oral rehabilitation is the restoration of all teeth in the mouth and restoration of all basic functions such as eating, speaking, supporting lips and cheeks, etc. Defective teeth are restored, which is called oral rehabilitation.

Prosthetics

Prosthetics, also called dental prosthetics or prosthetic dentistry, is under the dentistry department.

Dental surgery

An operation that heals diseases, injuries and defects in the orofacial and dental area. It applies to both medical and dentistry.

Dentures

Dentures are an artificial replacement for one or more teeth (partial denture) or all teeth (full denture) of one or both jaws, which is also known as a denture. Oral Dental Care - Cleaning dentures removes food and plaque daily.

Oral and Maxillofacial Protostotherapy

Maxillofacial prosthetics (oral and maxillofacial prosthetics) is a branch that includes oral surgical and orthopedic treatment of patients who have acquired or have congenital defects in the head and neck (maxillofacial) area due to cancer, surgery, trauma and or birth defects.

The American Journal of Medical Sciences and Pharmaceutical Research (ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 101-105
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-15

IMPACT FACTOR 2021: 5. 64
OCLC - 1121105510

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The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 106-110
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-16

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

Journal Website: http://usajournalshub.com/index,php/TAJMSPR

Dental Implantation And Its Classification

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ABSTRACT

Dental implantation is a procedure of implanting an implant in the jawbone of the patient with subsequent prosthetics of their crowns, bridge or conditionally removable dentures. The implant is a pre-trained artificial construct that is embedded in the tissue of the jaw for future restorations. Implants are designed to replace the roots of lost teeth, allowing in the future restoring the dentition. The following article explores the process of implantation.

KEYWORDS

Implantation, jaw, laser, prosthetic dentistry, two-stage implantation

INTRODUCTION

A dental implant (also known as an end osseous implant or fixture) is a surgical component that interfaces with the bone of the jaw or skull to support a dental prosthesis such as a crown, bridge, denture, facial prosthesis or to act as an orthodontic anchor. The basis for modern dental implants is a biologic process called Osseo integration, in which materials such as titanium form an intimate bond to bone. The implant fixture is first placed so that it is likely to Osseo integrate, and then a dental prosthetic is

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IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

added. A variable amount of healing time is required for Osseo integration before either the dental prosthetic (a tooth, bridge or denture) is attached to the implant or an abutment is placed which will hold a dental prosthetic/crown.

Success or failure of implants depends on the health of the person receiving the treatment, drugs which affect the chances of Osseo integration, and the health of the tissues in the mouth. The amount of stress that will be put on the implant and fixture during normal function is also evaluated. Planning the position and number of implants is key to the long-term health of the prosthetic since biomechanical forces created during chewing can be significant. The position of implants is determined by the position and angle of adjacent teeth, by lab simulations or by using computed tomography with CAD/CAM simulations and surgical guides called stents. The prerequisites for long-term success of osseointegrated dental implants are healthy bone and gingiva. Since both can atrophy after tooth extraction, pre-prosthetic procedures such as sinus lifts or gingival grafts are sometimes required to recreate ideal bone and gingiva.

The final prosthetic can be either fixed, where a person cannot remove the denture or teeth from their mouth, or removable, where they can remove the prosthetic. In each case an abutment is attached to the implant fixture. Where the prosthetic is fixed, the crown, bridge or denture is fixed to the abutment either with lag screws or with dental cement. Where the prosthetic is removable, a corresponding adapter is placed in the prosthetic so that the two pieces can be secured together.

The risks and complications related to implant therapy divide into those that occur during surgery (such as excessive bleeding or nerve injury), those that occur in the first six months (such as infection and failure to osseointegrate) and those that occur long-term (such as peri-implantitis and mechanical failures). In the presence of healthy tissues, a well-integrated implant with appropriate biomechanical loads can have 5-year plus survival rates from 93 to 98 percent and 10 to 15 year lifespans for the prosthetic teeth. Long-term studies show a 16- to 20-year success (implants surviving without complications or revisions) between 52% and 76%, with complications occurring up to 48% of the time.

Dental implants are artificial tooth roots used to support a restoration for a missing tooth or teeth, helping to stop or prevent jaw bone loss. The implantation procedure is categorized as a form of prosthetic (artificial replacement) dentistry, but also is considered a form of cosmetic dentistry. People who have lost teeth might feel too self-conscious to smile or talk. Additionally, biting irregularities caused by tooth loss can have a negative effect on eating habits, leading to secondary health problems like malnutrition. By replacing missing tooth roots, dental implants provide people with the strength and stability required to eat all the foods they love, without struggling to chew. Additionally, they help to stimulate and maintain jaw bone, preventing bone loss and helping to support facial features.

Despite the huge number of advantages, implantation of implant structures has the following disadvantages:

There is a risk of implant rejection (less than 5%);

The American Journal of Medical Sciences and Pharmaceutical Research
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IMPACT FACTOR
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OCLC - 1121105510

A large number of contraindications;

Duration of the procedure;

High price.

The implant may not take root due to the individual characteristics of the patient, due to proper care of the oral cavity, due to the use of poor-quality material, or due to its incorrect installation. In especially advanced cases, the duration of the procedure can be up to six months. The cost of installing an implant is much higher than a simple prosthetics.

Types of implants

There are different models of implant structures. Each of them is designed for a specific clinical case. The following varieties are distinguished:

Classic;

Short;

Mini implants;

Intramucosal;

Basal;

Zygomatic.

The classic type of root implants is presented in the form of an elongated cylinder or dental root. Their length is 6-7 mm. Such products can be used in almost all clinical situations. In areas with a minimum amount of bone tissue, short implants of 3-6 mm are installed. Their stability and reliability is ensured by their large width.

Classic and basal

Elongated basal products are inserted directly into the basal bone. They take root best in diabetic patients and smokers. Zygomatic varieties are placed in the zygomatic bone. They are used with a minimum amount of bone tissue. They serve as an excellent fixation for a bridge or fixed prosthesis. Mini implants are used to create temporary support for prosthetics or as additional reinforcement for placing braces. Intramucosal models are not fixed in the bone tissue, but in the mucosa. Most often they are used for fixing removable dentures in the elderly.

Implantation methods

The result of the manipulation depends not only on the type of implant chosen, but also on the technology of the implantation. There are several methods for carrying out such a procedure, each of them has its own advantages and disadvantages. Implantation techniques do not require preliminary grinding of healthy teeth that are located in the neighborhood.

Two-stage implantation

This method is considered a classic in dental implant ology. It is great for almost any clinical situation. Both conventional tapered implants and short ones can be installed. The main difference between the two-stage techniques is that it allows the product to gradually take root in the bone. This approach is gentler for the patient's body and ensures successful engraftment. Initially, the doctor prepares the bone bed for the installation of cylindrical or screw implants. To do this, the muco-periosteal flaps are removed and a small depression is created in the tissue itself. A guide channel is installed in the bone, which then expands. After preparation of the bone bed, an implant is screwed into it, on top of which a plug is installed. All muco-periosteal flaps are returned to their place, and the wound is sutured. The whole procedure takes about 1 hour.

The American Journal of Medical Sciences and Pharmaceutical Research
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IMPACT FACTOR
2021: 5. 64
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Classic scheme

The healing period can last from 3 months to six months. The second stage of implantation is the installation of the support head. To do this, incisions are made on the mucous membrane, the plug is removed and the gum former is mounted, which is then replaced with a support head. The disadvantage of this technique is that it does not allow you to instantly restore the lost tooth. However, in this case, engraftment occurs better, and the risks of developing complications are much less.

One-step procedure

This method involves the installation of a temporary crown immediately on the implanted implant. Not all types of products are suitable for such an operation, since some of them cannot provide the required level of stability. This procedure has many names: express, instant, instant implantation. The essence of the technique is that both tooth extraction and the installation of a temporary crown are carried out in one visit to the doctor.

Laser and basal technology

Some doctors consider the laser method of manipulation to be a separate type, but in fact it is a simple addition to the two-step technique. In this case, the gum is not cut with a scalpel, but with a laser. Therefore, the operation is bloodless, and the risks of developing the inflammatory process are minimized. The peculiarities of the basal implantation are that instead of the usual tapered products, long basal ones are installed. They are screwed into the bone and the prosthesis is immediately inserted.

Basal technology provides for one-stage manipulation. Its advantages include the following nuances:

Installation of an implant immediately after tooth extraction;

Low trauma;

Installation of a temporary prosthesis on the day of implantation of the device;

The dentition looks aesthetically pleasing immediately after manipulation;

No need to carry out sinus lifting and other additional procedures that involve bone augmentation;

The restoration of chewing function occurs in a short time.

Due to the fact that the implant is installed in a dense basal bone, its stability and reliability increases several times. A permanent prosthesis is installed one year after successful engraftment. It is recommended to use metal-ceramic crowns as a prosthesis.

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Published: February 28, 2021 | **Pages:** 106-110
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The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 111-117
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-17

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

Journal Website: http://usajournalshub.com/index,php/TAJMSPR

Diagnosis Of Focal Formations Of The Thyroid Gland With The Use Of Complex Of Methods

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ABSTRACT

The research paper presents the results of diagnosis and treatment of 82 patients with focal thyroid masses. Based on a complex study of patients, main specific diagnostic criteria were determined, the use of which allows to detect thyroid cancer in their early stages. It was educed, that multiself-reactance ultrasonic research, including B-mode, EDC, DDC, spectral Doppler and elastography assist upgrading of research in the early exposure of chasse of thyroid.

KEYWORDS

Thyroid tumors, complex ultrasound diagnostics, elastography

INTRODUCTION

Among modern medical and social problems, one of the most important diseases of the thyroid gland (thyroid gland), which is currently leading among the rest of the

The American Journal of Medical Sciences and Pharmaceutical Research
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IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

endocrine pathology. In this case, the proportion of thyroid cancer (TC) in relation to benign nodules and focal formations, according to the literature, ranges from 2 30% [1,5,10,19]. The prognosis of the disease in thyroid cancer largely depends on early diagnosis. The main difficulties in the timely diagnosis of thyroid cancer are associated with its long-term existence or on other thyroid diseases. Despite the achievements of high radiation diagnostics, none of the methods of medical care can accurately distinguish benign pathology of the thyroid gland from malignant [11,19,24]. The introduction of the TI-RADS classification system in the work of an ultrasound doctor reduced the total number of TAPBs by 31.8%. The TI-RADS classification, based on ultrasound data, reflects the differentiation of the thyroid nodule depending on the oncological risk. TI-RADS allows you to standardize ultrasound examination of the thyroid gland, to minimize the subjective factor in the interpretation of the ultrasound picture of the thyroid nodule; to develop a unified codified approach to the nodes of the formation of the thyroid gland on the part of ultrasound diagnostics doctors and clinicians. The use of TI-RADS helps to determine the indications for TAPP thyroid nodules and surgical treatment, and, consequently, to reduce the number of non-necessary minimally invasive and surgical interventions on the thyroid gland [3]. Currently, the study in B-mode, color and power Doppler mapping is of great importance in ultrasound diagnostics of thyroid diseases. Differential diagnosis of thyroid diseases is based on an assessment of the size of the gland, its echogenicity, echostructure, and information about regional lymph nodes. Nodular formations in the gland are differentiated by localization, size, shape, borders, contours, echogenicity, internal echostructure, state of the capsule and vascularization of the gland [7, 11, 25].

According to numerous domestic and foreign publications, the sensitivity and specificity of the gray scale technique in the differential diagnosis of qualitative and benign processes ranges from 55–70% [19,23]. The use of pulse-wave Doppler sonography, which allows assessing blood flow in the nodes and the thyroid gland, increases the sensitivity of the method slightly to 65–75% [7]. Modern complex ultrasound diagnostics, consisting of echography and Doppler sonography, has been supplemented by a third technology - elastography. Shear wave elastography is a method that allows for a quantitative assessment of tissue elasticity, which excludes the possibility of subjective interpretation of the data [2,12,18]. Physically, a shear wave is an elastic transverse wave (ultrasonic wave - longitudinal), the displacement of the particles of the medium in this direction perpendicular to the wave. The principle of operation of the technique is based on the generation of a shear wave in the tissues caused by an ultrasonic pulse and an assessment of the speed of its advance. In this case, the shear wave propagation is also visualized by the ultrasonic sensor itself. Numerical values of the elasticity index are given in m / s or kPa, depending on the type of shear wave elastography, the method is called quantitative ultrasound elastography or elastometry. The literature reports that two methods are used for “shear wave” elastography: point and two-dimensional shear wave elastography [12,18,21,23,27]. Point "shear wave" elastography as a method of obtaining shear waves allows one to obtain quantitative information about the elasticity of tissues, but

The American Journal of Medical Sciences and Pharmaceutical Research
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only at a given depth in the focal zone. To obtain shear waves at a different depth, it is necessary to shift the focus area closer or further from the sensor and create the necessary pressure in it with a new powerful ultrasonic pulse to obtain shear waves and measure their characteristics.

The stiffness of tissues is depicted in color: blue - for softer ones, and red - for harder ones. Following the study of color elastograms, elastometry is performed using one or more test volumes, freely movable and resizable. Numerical data can be presented as either shear wave velocity (in m / s) or elasticity (kPa). Thus, this technology makes it possible to quantitatively reflect the elasticity of the thyroid gland. A significant difference of this technology from the previous one (shear wave point elastography) is that color mapping greatly facilitates elastometry, allowing the doctor to choose only high-quality, artifact-free elastograms [4,17,18].

RESEARCH OBJECTIVE

Improving the differential and clarifying diagnosis of thyroid nodules by using sonoelastography.

MATERIALS AND METHODS

120 patients were under observation, referred for ultrasound to clarify the nature of the nodules in the thyroid gland. The age of the patients ranged from 18 to 81 years. Among the examined patients, men and women accounted for 26 (21.7%) and 94 (78.3%), respectively. Ultrasound was performed on modern ultrasound machines MINDRAY DS-80 (China), Logiq S8 XD clear GE Healthcare (USA), HI VISION Preirus (Hitachi Medical Corporation, Japan) and Samsung-Medison WS80 AC ELITE (South Korea) with a frequency range linear sensor 5-13MHz.

Ultrasound was performed according to the standard technique with gray-scale study, color and power Doppler mapping (CDC, EDC, spectral Doppler), and also sonoelastography mode (compression and shear waves) was used, which was used to assess the rigidity of the focal formations of the thyroid gland.

RESEARCH RESULTS AND THEIR DISCUSSION

In 62 (51.7%) subjects, single thyroid nodules were detected, in 58 (48.3%) patients, multiple nodules were detected.

The defeat of the thyroid gland was mainly observed in 34 women of reproductive age (36.1%). The largest group, of the examined (n = 49) 40.1%, consisted of various variants of diffuse-nodular goiter.

Out of 120 patients, 85 (70.1%) had a change in size towards an enlargement of the gland, irregularity of the contours was observed in 56 (46.7%) patients, uneven echogenicity - in 79 (65.8%), halo rim - in 62 (51.6%), an increase in the volume of the thyroid gland in 89 (74.2%), calcifications in 32 (26.7%), hypervascularization in 98 (81.6%) patients. Thyroid tissue elasticity indices were higher than 48.9 kPa (norm 6.7-19.8 kPa) in 106 (88.3%) patients.

During elastography, the normative range was 18.4 ± 7.8 kPa. In benign lesions, the arithmetic mean stiffness was 47.5 ± 10 kPa, which is significantly higher than the norm: ($p < 0.05$). Hypoechoic focal formations 5-10 mm in size were characterized by uniform staining in blue during elastography.

When identifying nodules of mixed echogenicity with sizes exceeding 10 mm, as

The American Journal of Medical Sciences and Pharmaceutical Research
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2021: 5. 64
OCLC - 1121105510

well as isoechoic formations with a hypoechoic rim along the periphery, cytological and histological findings were follicular adenomas without proliferation. The formations had a mosaic pattern of staining with a predominance of blue areas and several harder green areas. Elastograms showed a mixed type of mapping with a predominance of rigid, rigid blue areas. The arithmetic mean stiffness in malignant tumors was 156.2 ± 34.3 kPa, which is significantly higher than the norm, and significantly higher than the stiffness indicators ($p < 0.01$). (Figure 1.2.3.4).

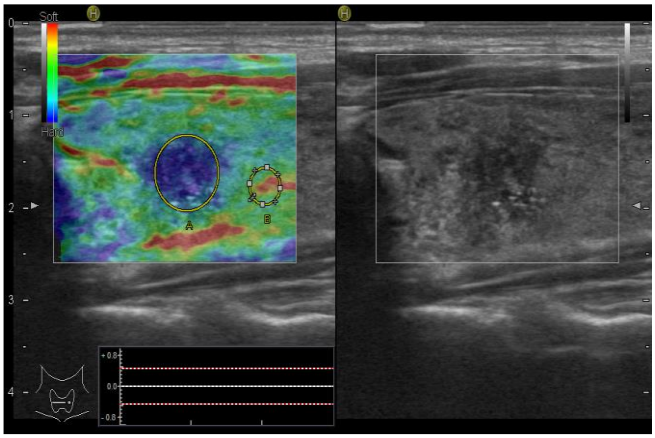

Fig. 1 Thyroid cancer. With compression elastography

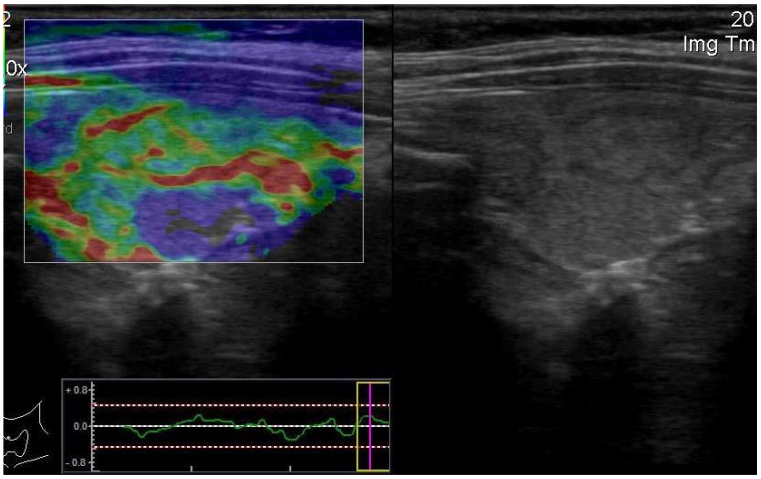

Fig. 2 Nodular formations of the thyroid gland.

With compression elastography

The American Journal of Medical Sciences and Pharmaceutical Research
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2021: 5. 64
OCLC - 1121105510

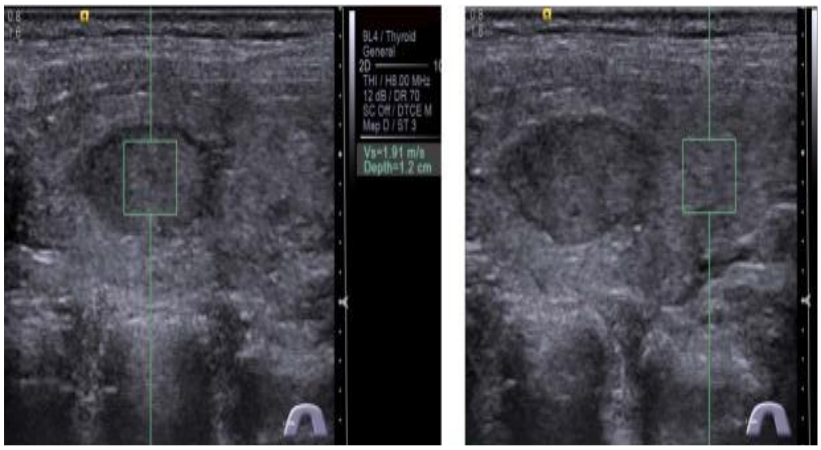

Fig. 3. Shear wave elastography. Nodular goiter in men 39 years old.

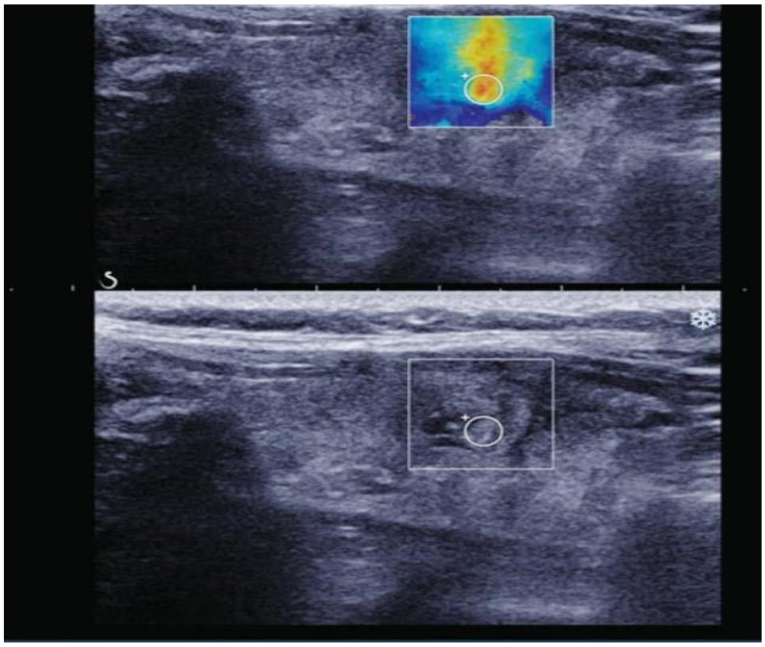

Fig. 4. Nodular formation of the thyroid gland.
2D shear wave elastography

CONCLUSIONS

Thus, the inclusion of quantitative and qualitative indicators of sonoelastograms in the modern complex ultrasound examination of the thyroid gland significantly increases the specificity and accuracy of traditional ultrasound examination in the diagnosis of non-palpable thyroid nodules. The diagnostic accuracy of the ultrasound method is increased to clarify the staging of thyroid cancer, which makes it possible to detect malignant tumors in the early stages. The use of sonoelastography for thyroid nodules is easily integrated into standard diagnostic procedures for thyroid pathology. This procedure is completely painless for the patient and requires only a few

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OCLC - 1121105510

extra minutes, without prior preparation of the patient.

Sonoelastography has the potential to distinguish benign tumors from malignant thyroid nodules. The main role of sonoelastography in ultrasound diagnostics is to clarify the nature of the nodules that can be observed without TAPB or surgical intervention. This can be especially informative in patients with undiagnosed or uncertain histological findings. In addition, the diagnostic value of the sonoelastography technique lies in the possibility of dynamic observation of various methods of treating thyroid nodules.

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The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 118-126
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-18

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

Journal Website: http://usajournalshub.com/index,php/TAJMSPR

Features Of Non-Specific Protection Factors And Cytokine Status In Inflammatory Diseases Of The Paranasal Sinuses In Twin Children

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ABSTRACT

The Aim of this work was to study the functional activity of monocytes, neutrophils and cytokines in twin children with Inflammatory diseases of the paranasal sinuses in comparison with non-twins. It was found that with various rhinosinusitis in children, phagocytic activity of monocytes in blood decrease, which causes the development of a chronic purulent focus and is characterized by an increase in monocytes with viral inclusions. In patients with Inflammatory diseases of the paranasal sinuses, the activity of non-specific protective factors of the body is significantly reduced, which is expressed in a decrease phagocytic activity of monocytes and an increase monocyte with viral inclusions, which is more evidently in twin children than in non-twin children. Serum cytokines in children with Inflammatory diseases of the paranasal sinuses were significantly increased in relation to the data of healthy children. In children-twins and non - twins, the parameters of anti-inflammatory cytokines changed in different directions.

KEYWORDS

Twin children, cytokines, non-specific protective factors, inflammatory diseases of the paranasal sinuses

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 118-126
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-18

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2021: 5. 64
OCLC - 1121105510

INTRODUCTION

Inflammatory diseases of the paranasal sinuses (IDPS) - an actual problem of practical otorhinolaryngology. The frequency of this pathology is indicated by the fact that among patients treated in otorhinolaryngological hospitals, from 15 to 36% are people suffering from sinusitis [7;8]

In the first place in terms of the frequency of lesions is the maxillary (maxillary sinusitis), then the ethmoidal (ethmoiditis), frontal (frontitis), sphenoid (sphenoiditis) paranasal sinuses. This sequence is typical for adults and children over 7 years of age. Children under the age of 3 years are dominated by ethmoiditis (up to 80-92%), from 3 to 7 years of age ethmoiditis and maxillary sinusitis.

It is necessary to take into account that twins are born prematurely, among them the stillbirth rate is high, and the infant mortality rate is higher. The level of intelligence among twins is lower than among single-born [5].

But there are few and scattered materials on the study of the factors of protection of the body of twins in IDPS in a comparative aspect.

It is known that monocytes destroy foreign microorganisms, damage their own cells, participate in the regulation of the formation of other immunocompetent cells, present information about the antigen to lymphocytes, and differentiate tissue macrophages from them [1;6].

There is information from Matkarimova M. Yu. et al. [4] on the phagocytic activity of monocytes in patients with IDPS, but unfortunately, there are practically no studies on the study of their functional activity in IDPS in twin children in comparison with non-twins.

In this regard, the aim of this research work was to study the functional activity of monocytes, neutrophils, and cytokine status in patients with IDPS.

MATERIALS AND METHODS

To achieve this goal, studies were conducted in 122 children-twins and non-twins from 7 to 18 years old, permanently residing in the Bukhara and Navoi regions of Uzbekistan. All the sick children were hospitalized and received treatment in Bukhara and Navoi regional multidisciplinary medical centers.

All examined children were divided into 4 groups: group 1-twin children with IDPS (n=45); group 2-non-twin children with IDPS (n=45); group 3 - healthy twins without IDPS (n=16); group 4 - healthy non-twins without IDPS (n=16).

The first group was divided into 3 subgroups depending on nosological units: 1a subgroup - 15 twin children with chronic purulent maxillary sinusitis (ChPMS); 1b subgroup - 15 twin children with chronic rhinosinusitis (ChR); 1c subgroup-15 twin children with chronic frontitis (ChF).

The second group was also divided into 3 subgroups on the same basis: 1a subgroup - 15 twin children of ChPMS; 1b subgroup-15 twin children of ChR; 1c subgroup - 15 ChF twin children.

Methods of rhinoscopy, otoscopy, pharyngoscopy, direct laryngoscopy and digital radiography were used to verify the diagnosis. All diagnoses were confirmed by conventional microbiological methods (Bergy's Manual of Microbiology, 1997).

The functional activity of monocytes in vitro was determined by the phagocytic activity of

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
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IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

monocytes (FAM) and the detection of viral inclusions in monocytes (VIM) in 122 patients and healthy and sick children-twins and non-twins.

FAM was determined in vitro in the nitroblue tetrazole recovery test (NTR-test) by Filev L. V. et al. (1985). The percentage ratio of FAM reflecting the intensity of phagocytosis and its completeness due to the activity of phagosome oxidases was revealed [2]. Antiviral resistance of monocytes was determined by the detection of VIM. The percentage of monocytes with viral inclusions was calculated [3].

The NTR-test evaluates the activity of phagocytes that are able to absorb foreign pathogens. The NTR-test characterizes the redox potential of monocytes and neutrophils. The test is based on pinocytosis of a monocyte or neutrophil activated NTR solution and the transformation of a soluble, colorless NTR into an insoluble dark blue formosan, which was determined using a microscope (manufactured in Germany) under an immersion system (magnification 90x10=900 times). To do this, a drop of blood of the examined child on a slide was mixed with a solution of NTR, incubated in a thermostat (manufactured in the Russian Federation) at 370C for 30 minutes. Then, the number of monocytes containing formazan granules was counted in the stained smear [4].

Spontaneous NTR-test-oxygen dependent phagocytosis, which characterizes the degree of activation of antibacterial oxygen-dependent systems within the phagocyte allows you to assess the readiness of the cell to "digest" the foreign antigen.

Induced NTR test - phagocytosis in the presence of stimulants (zymosan), which allows to assess the readiness of the cell for "digestion" of foreign antigen. Characterizes the reserve capabilities of oxygen-dependent intracellular systems.

The phagocytic activity of neutrophils (PAN) reflects the ability of neutrophils to recognize and capture microorganisms. Phagocytic reserve is the ratio of a spontaneous NTR-test to an induced one. It is used to identify the reserve capabilities of intracellular systems of the mononuclear-phagocytic system. In the study of oxygen-dependent biocidicity of neutrophils, the NTR- test was also used (Park et al., 1968, modified by Mayanskiy D. N., 1983). The functional reserve of neutrophils of the examined children was determined by an induced NTR-test (Bachner, 1987). As an inducer, zymosan in the form of a suspension (1 mg/ml) and a biopolymer of the yeast shell Sacchoromyces cerevisi were used.

The cytokine status of patients with IDPS and healthy children was assessed by determining by increasing of inflammatory (interleukin-6, interleukin-8) and anti inflammatory (interleukin-4) cytokines. Interleukin-6 (IL-6), interleukin-8 (IL-8), and interleukin-4 (IL-4) were determined in the blood serum of examined patients with IDPS and healthy twin children, as well as non-twins, using immunoenzyme analise (IEA). For this purpose, used the test "Cytokine", RF [5].

Statistical processing of the material was carried out by conventional methods of variation statistics using computer programs for biomedical research.

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 118-126
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2021: 5. 64
OCLC - 1121105510

RESEARCH RESULTS AND THEIR DISCUSSION

It is established that in healthy twin children (3-group) the FAM is 25.7±0.9%, and the children are not twins (4-group), this parameter was not statistically significant, but significantly higher at 27.3±1,1% (table 1).

In children twins with IDPS noted significant decrease of this index relative to group 3 (control), as patients with ChPMS (subgroup 1a), a decline of 2.49 times to 10.3±0.9%, and with ChR (subgroup 1b) 2.34 times to 11.0±0.7%, and with ChF (subgroup 1c) 1.72 times - up to 14,9±0,8% (P<0.001).

In the examined patients with non-twin IDPS in comparison with the control group (group 4), there were also significant differences (P<0.05), but the difference was not as pronounced as in the patients with twin children. Thus, the data of subgroup 2a (ChPMS) differed from the control data by 2.24 times - up to 12.2±1.0%, subgroup 2b (ChR) by 2.07 times - up to 13.2±0.9%, subgroup 2c (ChF) by 1.66 times - up to 16.4±1.0% (P<0.001).

Thus, it was established that in patients with IDPS, both twins and non - twins, there was a significant decrease in FAM in relation to these control groups (P<0.05-P<0.001), which is confirmed by a relatively low multiplicity of differences from the control values. But the analysis shows that the intensity of the decrease in this indicator was greater in twin children than non-twin children, and this is manifested in different pathologies (ChPMS, ChR, ChF) almost equally. The results obtained prove that the nonspecific protection factor FAM suffers more in twin children than in single-born children.

Table 1. Indicators of functional activity of blood monocytes of twin children with various rhinosinusitis

Study groups	FAM, %	VIM, %
Group 3, n=16	25,7±0,9	6,1±1,0
Group 4, n=16	27,3±1,1	7,8±1,2
1a subgroup, n=15	10,3±0,9* ↓	33,7±1,8* ↑
2a subgroup, n=15	12,2±1,0* ↓	28,1±1,5* ↑
1b subgroup, n=15	11,0±0,7* ↓	33,7±1,5* ↑
2b subgroup, n=15	13,2±0,9%* ↓	27,8±1,9* ↑
1c subgroup, n=15	14,9±0,8* ↓	26,7±1,9* ↑

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 118-126
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2c subgroup, n=15	16,4±1,0* ↓	23,1±2,0* ↑

Note: * - a sign of the reliability of differences in the indicators of sick children compared to healthy children; ↓, ↑ - the direction of changes.

A significant decrease in FAM is observed in all patients with twin children with ChPMS, ChR, and ChF, but it is less intense in patients with ChF than other studied pathologies (P<0.05).

The trend of changes was also preserved in the study of VIM. If viral inclusions were detected in monocytes of healthy non-twins (group 4) in 7.8±1.2% of cases, in healthy twins (group 3) this indicator was slightly reduced to 6.1±1.0% (P>0.05). The intensity of the increase in this parameter was significantly greater in patients with twin children with IDPS compared to patients with non-twin children with this pathology (P<0.05).

Thus, in subgroup 1a (ChPMS) the increase was 5.52 times (respectively 33.7±1.8% vs. 6.1±1.0%, P<0.001), while in subgroup 2a the increase was 3.60 times (respectively 28.1±1.5% vs. 7.8±1.2%, P<0.001). Almost the same parameters were obtained for other pathological conditions-respectively, in 1b and 2b subgroups (ChR), the increase was 5.39 and 3.56 times, and in 1b and 2b subgroups (ChF) 4.38 and 2.96 times (P<0.05).

In patients with twins with ChR, there is a sharp increase in the percentage of VIM to 33.7±2.8%, which is 4.32 times more than the indicators of the control group (7.8±1.2%) - P<0.001.

Similar results were obtained in patients with ChPMS (32.9±3.5%) and ChF (26.7±3.9%), although the intensity of the lesion in the latter was lower than in other pathologies (P<0.05).

Thus, in contrast to FAM, the reverse picture was obtained when determining VIM-there were more viral inclusions in monocytes in twin children with IDPS than in non-twin children. But the intensity (multiplicity) of differences compared to healthy children was greater in twins, which proves that the pathological process is more pronounced and noticeable in them. This fact suggests that when developing an algorithm for the management and treatment of sick children in the IDPS, it is necessary to take into account this pattern that we have identified.

The results obtained allowed us to conclude that in various studied IDPS, FAM decreases, which causes the development of a chronic purulent focus and creates conditions for intracellular persistence of various viruses. In addition, viral damage to monocytes suppresses their functional activity, as a result of which their contribution to the specific and non-specific resistance of the body of children, especially twins, is reduced.

The next stage of research was to study the oxygen-dependent reactivity of neutrophils in the examined children-twins and non-twins of patients with IDPS.

The initial indicators of oxygen-dependent neutrophil reactivity in all groups reflected a decrease in the spontaneous NTR-test compared to the data of healthy children of the 3rd and 4th control groups (table 2).

The American Journal of Medical Sciences and Pharmaceutical Research
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Table 2. Indices of the oxygen-dependent biocenosi of neutrophils in twin children with rhinosinusitis, ed.

Study groups	Spontaneous NTR-test	Induced nst-test	Stimulation index
Group 3, n=16	9,8±0,8	20,8±1,1	2,2±0,4
Group 4, n=16	10,8±0,9	23,6±1,2	2,2±0,5
1a subgroup, n=15	6,3±0,7* ↓	20,1±1,3 ↓	3,2±0,5
2a subgroup, n=15	7,4±0,6* ↓	22,3±1,2 ↓	3,0±0,4
1b subgroup, n=15	5,2±0,6* ↓	15,9±1,2* ↓	3,1±0,4
2b subgroup, n=15	7,1±0,8* ↓	20,8±1,1* ↓	2,9±0,5
1c subgroup, n=15	7,7±0,8* ↓	20,4±1,0 ↓	2,9±0,4
2c subgroup, n=15	8,5±0,9* ↓	23,8±1,2 ↑	2,8±0,5

Notes: * - a sign of the reliability of differences in the indicators of sick twin children from those of healthy children;↓, ↑ - the direction of changes.

This was most characteristic in twin children with ChPMS (1a-subgroup) and CHR (1b-subgroup), where the decrease in the spontaneous NTR-test parameter was 1.5-and 1.9-fold (respectively 6.3±0.7 units and 5.2±0.6 units versus 9.6±0.8 units, P<0.001).

In patients with ChF (subgroup 1b), the decrease was less noticeable (by 1.3 times-7.7±0.8 units, respectively, versus 9.6±0.8 units), but significant. The results obtained indicate that the oxygen-dependent biocides of neutrophils significantly decreases in patients with IDPS compared to healthy children. This fact confirms that the PAN significantly decreases in patients with twin children with IDPS, which in turn leads to a decrease in the nonspecific resistance of the body of the examined patients.

In patients with non-twin children, the same trend was maintained, where the parameters of sick children were significantly reduced in relation to the control data (group 4, P<0.05). However, the intensity of the changes was noticeably lower than in the twin children of patients with IDPS. This fact proves that in the pathology of the paranasal sinuses in single-born children, the nonspecific resistance of the

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body suffers less than in twin children, which is confirmed by the results obtained.

The results of the induced NTR-test showed a different picture. When stimulated with zymosan, all the studied indicators increased in almost all examined healthy and sick children. It should be noted that the parameters of sick children reached the level of control values and did not differ significantly from them (P>0,05).

The degree of stimulation was 2.2 or more times, as evidenced by the parameters of the stimulation index. It should be emphasized that in sick children, the stimulation index was higher than in healthy children, and the same in both twins and non-twins. The stimulation index of sick children ranged from 2.8±0.5 to 3.2±0.6 units, which is more than in healthy children (2.2±0.4 units).

The results obtained indicate that the reserve of functional activity of neutrophils is high in patients with IDPS, regardless of the fact that the children were twins or non-twins. In this regard, the obtained results suggest that despite the presence of a pathological focus in the body, it is possible to restore the reduced potential of neutrophil activity by correcting drugs that increase the activity of non-specific resistance factors of the body.

Thus, the oxygen-dependent reactivity of neutrophils, which characterizes the nonspecific resistance of the body, decreases in the pathology of the paranasal sinuses, which is characterized by a decrease in the spontaneous NTR-test. An increase in the induced NTR-test after stimulated by zymosan indicates the reserve of PAN and the potential of non-specific factors of the body's defense, although the spontaneous NTR-test shows that functional activity decreases more in twin children than in non-twin children. But the functional reserve was the same in twin and non-twin children.

It was found that the determination of pro-and anti-inflammatory cytokines in the blood serum of the subjects provides sufficient information for early diagnosis and management of patients in the dynamics of the course of the disease, as well as predicting the outcome of various diseases, including IDPS. This involves determining the content of pro- and anti-inflammatory cytokines when assessing the immune status in sick children [7].

Determination of the concentration of pro - and anti-inflammatory cytokines in the blood serum of children, which occupy the main place during the inflammatory process in the mucous membrane of the paranasal sinuses. It is known that the causative agent of IDPS causes a pathological process only if it was able to overcome the "first echelon of protection", represented by non-specific factors of resistance of the body. In this case, epithelial cells can cause, spread and modulate inflammation. They are able to secrete pro-inflammatory cytokines (IL-6, IL-8) that attract inflammatory cells [5].

The results of measuring the concentration of cytokines in the blood serum of twin and non-twin children showed that, despite the noticeable heterogeneity of the results obtained within each group, patients with IDPS showed an increase in the values of IL-6 and IL-8 compared to children of the control group, as well as a tendency to increase the level of IL-4 (table 3).

Thus, the study of pro-and anti-inflammatory cytokines in patients with IDPS of twin and

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non-twin children showed that in sick children of both groups (groups 3 and 4), both types of cytokines were significantly increased in relation to the data of healthy children. In addition, it should be noted that proinflammatory cytokines (IL-6 and IL-8) were significantly elevated in twin children in relation to non-twin data, the reverse picture was observed when studying the parameters of anti-inflammatory cytokines (IL-4), where the data of sick non-twin children were in relation to the indicators of twin children ($P<0.05$).

Table 3. Comparative content of pro-and anti-inflammatory cytokines in twin and non-twin children with IDPS, M±m

Groups	ИЛ-8	ИЛ-6	ИЛ-4
Group 3, n=16	10,1±0,3	7,4±0,3	9,0±1,0
Group 4, n=16	10,4±0,2	7,3±0,5	9,2±1,0
1a subgroup, n=15	45,7±0,3* ↑	65,1±0,9* ↑	73,6±1,1* ↑
2a subgroup, n=15	40,3±0,4* ↑	59,6±0,8* ↑	79,3±1,0* ↑
1b subgroup, n=15	42,6±0,2* ↑	68,5±0,8* ↑	70,2±1,2* ↑
2b subgroup, n=15	36,8±0,5* ↑	61,2±0,9* ↑	78,6±1,1* ↑
1c subgroup, n=15	6,7±0,3* ↑	23,3±0,9* ↑	9,8±1,3* ↑
2c subgroup, n=15	11,5±0,2* ↑	28,7±0,9* ↑	14,5±1,2* ↑

Notes: * - a sign of the reliability of differences in the indicators of sick twin children from those of healthy children;↓, ↑ - the direction of changes.

CONCLUSIONS

1. With various rhinosinusitis in children, blood FAM decreases, which causes the development of a chronic purulent focus and forms conditions for intracellular persistence of viruses, which is characterized by an increase in monocytes with viral inclusions.
2. In patients with IDPS, the activity of non-specific protective factors of the body is significantly reduced, which is expressed in a decrease in FAM indicators and an increase in monocytes with viral inclusions in vitro, which is more pronounced in twin children than in non-twin children.

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Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-18

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OCLC - 1121105510

3. Serum cytokines in patients with IDPS were significantly elevated in relation to the data of healthy children, it was also noted that the parameters of pro-and anti - inflammatory cytokines varied in different directions in children-twins and non-twins.

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The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
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Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-19

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

Journal Website: http://usajournalshub.com/index,php/TAJMSPR

Assessment Of Clinical And Psychological Status And Quality Of Life Of Patients In Different Forms Of Irritable Bowel Syndrome

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ABSTRACT

Irritable bowel syndrome (IBS) is a biopsychosocial disorder that consists of a set of functional disorders that cannot be explained by organic changes in the intestines. At present, it is very important to determine the indicators of quality of life (QOL) in patients with various diseases. QOL analysis allows us to determine how well a patient is coping with the disease, and is also important for addressing many of the issues that arise during treatment. The main complaints of patients were fecal incontinence (100%) and pain syndrome (100%). In patients with IBS with predominance of diarrhea and constipation, the leading symptom in the clinical picture of the disease is pain throughout the bowel, which decreases or disappears after defecation, accompanied by flatulence and a feeling of complete bowel emptying. ± 0.25 points (according to the results of the GSRS survey), which corresponds to severe and moderate intensity pain syndrome. At the end of the course of treatment, a statistically significant decrease in the intensity of abdominal pain was observed in patients.

KEYWORDS

Irritable bowel syndrome, quality of life, psychological status.

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
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2021: 5. 64
OCLC - 1121105510

INTRODUCTION

Irritable bowel syndrome (IBS) is a biopsychosocial disease consisting of a set of functional disorders not explained by organic changes in the intestine (Sheptulin A.A., Vize-Khripunova MA, 2016, Hanyukov A.A., Fedorova N.S., 2017).

A meta-analysis published in 2012 found that the prevalence of IBS in the world was 11.2% when 80 clinical trials were conducted on a total of 260,960 patients, subject to strict selection criteria (Lovell RM, Ford AC., 2012). Only 12-15 percent of patients seek medical attention. IBS incidence is 7% in Southeast Asia, 20% in Europe and 21% in South America. According to the literature, the number of patients with functional disorders of the gastrointestinal tract, including IBS, in specialized gastroenterological hospitals reaches 41-45% (Pogromov AP, Mnatsakanyan MG, Tashchyan OV, 2016). The incidence of IBS among women remains higher than that of men. Young people are more likely to get the disease than people over the age of 50. Any manifestation of the clinical manifestations of IBS in patients of the older age group should alert the physician to the exclusion of organic pathology.

Analysis of modern data on the etiology and pathogenesis of functional pathology of the digestive tract allows us to comment on the concept of disease formation, obviously, it is not one, but several etiological factors, and in turn these factors are associated with not one but several pathophysiological mechanisms. And the complexity of controlling such patients is that the combination of etiopathogenetic mechanisms in each individual case is individual. Among them are: socioeconomic status, genetic predisposition, the possibility of disease in children of parents with IBS, psychological aspects, hypersensitivity of the internal organs, disorders of the gastrointestinal tract, changes in the neuroendocrine system (brain-intestinal) axis), low-grade- inflammation, the concept of post-infectious IBS, microflora imbalance and, finally, nutritional factors (Maev I.V., Cheremushkin S.V., Yu.A.Kucheryavyy, 2016, Maev I.V., Cheremushkin S.V. et al., 2016).

At present, it is very important to determine the indicators of quality of life (QOL) in patients with various diseases. QOL analysis allows us to determine how well a patient is coping with the disease, and is also important for addressing many of the issues that arise during treatment. Assessment of QOL can be used as an additional criterion in determining the severity of the patient's condition, evaluating the effectiveness of treatment, in particular, a comprehensive extended clinical analysis of new drugs, analysis of the effectiveness of primary or secondary prophylactic measures (Barishnikova N. and et al., 2013).

It should be noted that QOL analysis is based on a person's subjective perception. Methods of studying QOL are based on determining the patient's own level of well-being physically, mentally, socially and economically, i.e. the concept of QOL includes information on key areas of human life. Over time, QOL changes depending on the patient's condition, endogenous and exogenous factors, allowing the patient's condition to be dynamically monitored and monitored. QOL detection technology involves the direct involvement of the patient (World Gastroenterology Organization global guidelines irritable bowel syndrome: a global perspective, 2015).

Traditionally, QOL is assessed using various questionnaires, tests, scales, indices,

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questionnaires, which are divided into nonspecific and specific. In gastroenterological practice is often used specific - GSRS.

The GSRS (Gastrointestinal Symptom Rating Scale) questionnaire was developed by the QOL Research Division of ASTRA Hassle (Wiklund I., 1998) and is used to assess XS levels in patients with gastrointestinal disease. The Russian-language version of the GSRS survey was developed by researchers at the International Center for the Study of QOL (QOLO'XM, St. Petersburg), and in 1998 it was tested in a study of QOL for 2,000 residents of St. Petersburg. The Russian version of the GSRS gastroenterological questionnaire is reliable, authentic, and sensitive (Shlyakov A.E. et al., 2017).

THE PURPOSE OF THE STUDY

A study of the clinical, psycho-emotional status of patients with different forms of IBS and assessment of quality of life using a special questionnaire.

MATERIAL AND RESEARCH METHODS

The study was conducted in the gastroenterology department of BRMMC (Bukhara Regional Multidisciplinary Medical Center) and all patients treated with IBS in an inpatient setting for 2017-2019 were selected. The diagnosis of IBS was made based on IV Roman criteria (2016), using the Bristol fecal forms scale to determine the clinical form of IBS (Blake M.R., Raker J.M., Whelan K., 2016). Determination of the composition of chemical elements was carried out in the laboratory of the Institute of Nuclear Physics of the Academy of Sciences of the Republic of Uzbekistan.

Criteria for inclusion: Conformity of the diagnosis of IBS to the IV Roman criteria, age - from 18 to 45 years, a letter of written consent.

Exclusion criteria: patients older than 45 years, "anxiety symptoms" (weight loss; onset of disease in old age; nocturnal symptoms; colon cancer, celiac disease, ulcerative colitis and Crohn's disease among relatives, persistent severe abdominal pain as the only symptom of gastrointestinal tract injury) , fever, hepatitis - and splenomegaly, anemia, leukocytosis, increased ECG, the presence of occult blood in the stool, changes in the biochemical analysis of blood, steatorrhea and polyphagia).

A total of 121 patients and healthy people were examined. Patients were divided into 2 groups: the first group were patients with IBS, which were divided into 3 subgroups: IBSd (diarrhea) - 51 patients (20 men and 31 women), IBSc (constipation) - 66 patients (33 men and 33 women), IBSm (mixed) - 4 patients (2 men and 2 women). The control group included 20 healthy volunteers (6 males and 14 females) who underwent prophylactic screening as part of the examination of gastrointestinal tract pathology at BRMMC. The mean age of the control group was 25.75 ± 4.02 years.

Esophagofibrogastroduodenoscopy in all patients (FUGINON. FUGI FILM EPX-2500, 2014, Japan; FUGI FILM-EG-530PF, 2014, Japan), colonoscopy (FUGI FILM-EG-530FL, 2014, Japan), organ ultrasound examination, stool dissection (Vivid S-60,2014, Norway), micronutrient status testing (mass spectrometry method, perkinelmer inc., Shelton, CT 06484, USA) and a special survey to determine quality of life - GSRS.

The Tsung scale was used to assess the degree of depression in patients. The GSRS

The American Journal of Medical Sciences and Pharmaceutical Research
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questionnaire consisted of 15 sections, which were combined on 6 scales: abdominal pain, gastroesophageal reflux (or reflux syndrome), diarrhea syndrome, dyspeptic syndrome, constipation syndrome, and the final measurement scale. Indicators are assessed on a 7-point scale, with high scores corresponding to pronounced symptom development and low QOL. The survey was conducted on the day the patient was admitted to the hospital and 14 days after the main therapeutic treatment. The Tsung questionnaire consists of 20 sections, each of which offers 4 answer options: 4 - "almost always", 3 - "often", 2 - "sometimes", 1 - "almost never" or vice versa. The results were evaluated as follows: less than 50 - no depression, 50-59 - mild depression, 60-69 - moderate, 70 and above - severe depression.

RESULTS AND DISCUSSION

The relationship between disease onset and stress was observed in 65 (53.7%) patients with IBS, 36 (29.7%) reported symptoms after infection, and 20 (16.5%) reported symptoms after taking antibiotics. appeared against the background of non-compliance with diet, alcohol consumption and exercise. The duration of the disease averaged 4.18 ± 2.11 years, ranging from 1 to 15 years (Fig. 1).

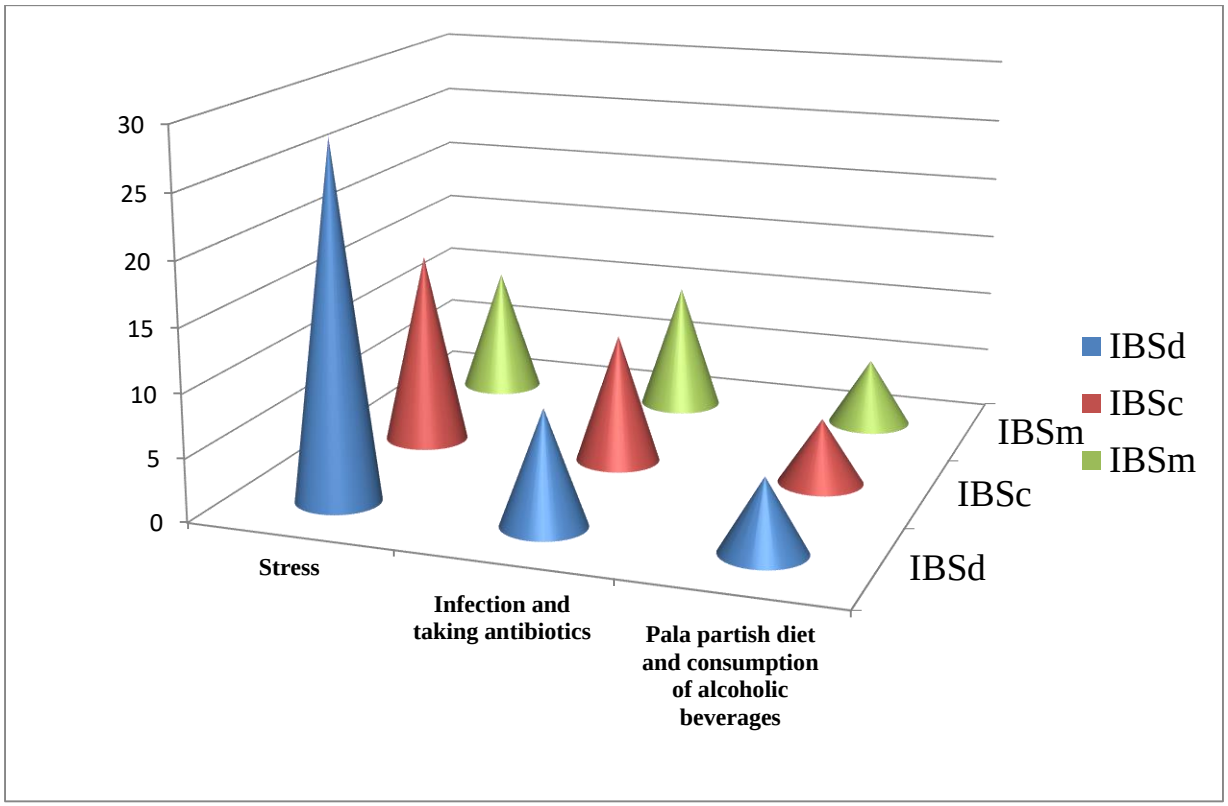

Figure 1. The rate of occurrence of etiological factors in various forms of IBS,%

The main complaints of patients were fecal incontinence (100%) and pain syndrome (100%). In patients with IBS with predominance of diarrhea and constipation, the leading symptom in the clinical picture of the disease is pain along the bowel, which decreases or disappears after defecation, accompanied by flatulence and a feeling of complete bowel

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emptying (table 1). The nature of the pain varies, ranging from simmering pain to colic-like aggressive pain, varying in intensity and duration.

Table 1.

Clinical features of patients with IBS

Symptoms	**IBSd N=51**	**IBSc N=66**	**IBSm N=4**
Pain along the bowel that decreases or disappears after the act of defecation	51 (100)	66 (100)	4 (100)
Pain in the epigastric area that occurs after eating	8 (15,6)	9 (13,6)	1 (25)
A feeling of complete emptying of the bowel after the act of defecation	25 (49)	30 (45,4)	2 (50)
Flatulence	45 (88,2)	48 (72,7)	2 (50)
Pain along the direction of the colon when palpated	36 (70,5)	39 (59)	1 (25)
History of acute intestinal infections	26 (50,9)	36 (54,5)	1 (25)

When summarizing the survey data on the Tsungga scale, depression was not observed in 20.2% (less than 50 points) of patients with IBS with a predominance of diarrhea, mild depression (50-59 points) in 43.4%, moderate depression in 36.4% (60- 69 points) were observed. The mean values in this group of patients were 19.6 ± 0.2, and in the control group 7.8 ± 0.2. The results obtained indicate a significant presence of depressive symptoms in this category of patients. The results of studies in IBSq and IBSa subgroups showed similar psychological changes. Mild to moderate depressive symptoms were also found to be underdeveloped in these patients. No severe depression was detected in any of the small groups (table 2).

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Table 2.

The degree of development of depression in small groups of IBS

Type of IBS	No depression (%)	Mild depression (%)	Moderate depression (%)
IBSd	20,2	36,4	43,4
IBSc	38,2	35,2	26,4
IBSm	39,7	30,2	30,1

Based on the standard course of treatment as the main course of therapy, patients were prescribed myotropic spasmolys, osmotic laxatives (in constipation), psychotropic drugs in therapeutic doses (in severe cases) and physiotherapy. Positive dynamics were noted in all patients after the course of treatment (table 3) - pain syndrome disappeared (100.0%) and symptoms of intestinal dyspepsia decreased (86.0%).

Table 3.

Assessment of quality of life of patients with IBS during GSRS survey during treatment (M ± m)

	Before treatment (points)	14 days after the main course of treatment
Abdominal pain	3,50±0,25	1,52±0,24*
Reflux syndrome	1,13±0,1	1,1±0,05
Diarrhea	3,44±0,16	1,34±0,20*
Dyspepsia	3,39±0,17	1,6±0,1*
Constipation	3,55±0,15	1,55±0,17*
Total score	34,8±4,11	21,4±2,14*

*Note: * - reliability of differences after the main course of treatment (p <0.05).*

Initially, pain syndrome was observed in all patients and ranged from a maximum of 7 points to 3.50 ± 0.25 points (according to the GSRS survey), which is consistent with severe and moderate intensity pain syndrome. At the end of the course of treatment, a statistically significant decrease in the intensity of abdominal pain was observed in patients. Initially, pain syndrome was more pronounced in patients with diarrhea, who noted relief of pain after treatment (table 4).

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Table 4.

Assessment of pain syndrome during treatment according to the GSRS questionnaire (M ± m)

	Abdominal pain (points)		
	Constipation	Diarrhea	Common Patients
Before treatment	*3,41±0,16	3,75±0,19	3,58±0,28
After treatment	1,57±0,17*	*1,36±0,20*	1,46±0,25*

*Note: * right - data reliability before treatment (r <0.05); * left - reliability of differences between groups (r <0.05).*

In patients with IBS, the severity of flatulence decreased significantly after treatment. The mean incidence of reflux syndrome was significantly lower than other syndromes and approached normal levels (table 4). The positive dynamics of the main symptoms of IBS had a positive effect on the quality of life of patients, which was assessed by the overall scores of the main gastroenterological symptoms during treatment.

CONCLUSION

1. More abdominal pain syndrome was noted in patients with a clinical form of IBS with a predominance of diarrhea.
2. In patients with IBS with a predominance of diarrhea, deeper depressive changes were found than with an IBS with a predominance of constipation and mixed type.
3. Quality of life in patients with IBS depends on the severity of abdominal pain and dyspeptic syndrome.
4. Decreased quality of life in the long run does not depend on the type of disease (IBS with constipation or IBS with diarrhea).
5. Assessment of quality of life during treatment can be used at all stages of follow-up of patients with IBS for timely correction of treatment.

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The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 135-139
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-20

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

Journal Website: http://usajournalshub.com/index,php/TAJMSPR

Clinical Course In Upper Gastrointestinal Patients With Connective Tissue Dysplasia Syndrome

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ABSTRACT

Connective tissue dysplasias (CTDs) are genetically determined conditions characterised by defects in fibrous structures and connective tissue basic substance, leading to organ and system malformations, having a progressive course, defining features of associated pathology, as well as pharmacokinetics and pharmacodynamics of drugs.

KEYWORDS

Connective tissue dysplasia syndrome, clinical signs, upper gastrointestinal tract

INTRODUCTION

Connective tissue dysplasia (CTD) is a developmental disorder of connective tissue in the embryonic or postnatal period, a genetically determined condition characterised by defects in fibrous structures and connective tissue basic substance. Leading

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 135-139
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-20

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

to homeostasis disorder at tissue, organ level in the form of various clinical and morphofunctional disorders. A frequent cause of this syndrome is the course of gastric ulcer against the background of liver cirrhosis, GERD against the background of chronic obstructive pulmonary disease, cardiac pathology. Quantitative changes in the formation of complete components of the extracellular matrix, impaired fibrillogenesis leads to the development of DST. Leading to all of the above are mutated genes that are responsible for the synthesis of connective tissue structural proteins or enzymes involved in these processes. The realisation of genetic determinants is either determined to the greatest extent by external conditions, as in the case of DST, or is little influenced by external conditions.

The course of upper gastrointestinal (GI) pathology in patients with connective tissue dysplasia (CTD), which is much more prevalent than other pathologies, is poorly understood to date. Impaired fibrillogenesis in CTD can impair ulcer scarring, which creates a need to influence the metabolism of the connective tissue itself. In the formation of CTD the leading role in the formation of CTD belongs to the disruption of magnesium metabolism in patients. In the body, magnesium ion is essential for cell adhesion and migration, is involved in energy metabolism, in DNA replication processes and is also involved in other cellular functions leading to trophic disorders. In CTD free-radical processes in cells are influenced by such enzymes as SOD, catalase and total oxyproline. At low activity of these enzymes peroxynitrite is formed, which in turn aggravates dysplastic disorders in patients with peptic ulcer disease of the stomach and duodenum on the background of CTD Such combinations, when CTD acts as a background, aggravating the course of the underlying disease, are of particular interest, being a category of "difficult patients". This is the relevance of the study. The available literature practically lacks data concerning clinical follow-up of gastroduodenal diseases at the outpatient-polyclinic stage and assessment of its quality. Timely detection and treatment of initial forms of diseases, rehabilitation therapy, extensive measures for primary and secondary prevention are the priority of polyclinic service. In this connection development of proposals on improvement of the system of therapeutic and prophylactic measures in relation to chronic gastroduodenitis seems topical. One of the major problems in gastroenterology is chronic diseases of the upper digestive tract, which are a common pathological process with a long-term recurrent course. Connective tissue dysplasia syndrome (CTS), which arises from a decrease in connective tissue strength depending on the organ or system involved. The formation of various chronic diseases is based on multiple factors that influence the course of the disease. Environmental degradation, metabolic disorders and various nervous conditions lead to an increase in the incidence of CTS syndrome. The clinical symptoms in patients are varied, with connective tissue pathology indicating a systemic lesion, as all organs are mainly made up of connective tissue and perform a number of important functions in the body. A fairly wide prevalence of chronic diseases of the upper digestive tract among the population leads to a combination of this disease with pathology of various organs and systems. The peculiarities of the course and treatment of peptic ulcer in diabetes mellitus and other types of endocrine pathology are known. Not

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
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Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-20

IMPACT FACTOR
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OCLC - 1121105510

uncommon are the cases of peptic ulcer against the background of liver cirrhosis, chronic obstructive pulmonary disease, heart disease. Background pathology influences pathogenesis, protective factors, course and treatment of the underlying disease as well as modulates in a certain way healing and alteration processes in ulcer layers, inflammatory reactions in different parts of esophagus, stomach and duodenum. The result is a variety of clinical variants of the disease and not always a successful response to standard therapy. The course of upper gastrointestinal (GI) pathology in patients with connective tissue dysplasia (CTD), which is much more prevalent than gastritis, GERD and peptic ulcer disease, has been little studied to date. It is known to have a consistent negative effect of pre-existing dysplasticity-dependent changes on the course of associated pathology. Impaired fibrillogenesis in DST can impair ulcer scarring, which creates the need to influence the metabolism of the connective tissue itself.

The leading role in the formation of CTD belongs to impaired magnesium metabolism in patients. Magnesium ion in the body is necessary for cell adhesion and migration, participates in energy metabolism, in DNA replication processes, and is involved in other cellular functions leading to trophic disorders. Such combinations, when CTD acts as a background, aggravating the course of the underlying disease, are of particular interest, being a category of "difficult patients". This is the relevance of the study.

RESEARCH OBJECTIVE

Identify clinical features of upper gastrointestinal pathology in patients with connective tissue dysplasia syndrome

RESEARCH MATERIALS AND METHODS

We examined 50 patients admitted to the cardiac rheumatology department of Samarkand City Hospital between 2018 and 2020. The patients were divided into upper GI groups with and without signs of CTD Mainly the subjects had exacerbation of GERD, gastritis and peptic ulcer disease of the stomach and duodenum. Generally accepted methods of investigation were used in the study. The age of the patients (from 16 to 40 years), presence of signs of connective tissue dysplasia were taken into account. Besides, we took patients' informed consent to participate in the study, where 10 healthy patients aged 15 to 25 years without pathology were the control group. General clinical examination was performed according to a standard scheme, which included finding out complaints, collecting anamnesis, and assessing the condition of organs and systems. All the patients were repeatedly examined in the outpatient and inpatient clinics.

RESEARCH RESULTS AND THEIR DISCUSSION

During the examination of patients, attention was paid to gastrointestinal tract signs where there was a definite correlation with CTD. In 25 patients the presence of gastroptosis, dolichosigmia, diverticulosis was observed, in 15 patients atypical position of the gallbladder, atrophic processes in the mucous membrane. In people with gastroenterological pathology signs of CTD are observed in 40 - 60%. The relevance of the problem is related to a poor quality of life. The frequency of reflux esophagitis in patients with diseases of the digestive system varies from author to author, in this case it was 9-18%. These patients showed symptoms such as heartburn, regurgitation, wet spot, belching with air, sour, bitter,

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odynophagia and dysphagia. In the clinical picture of CGD in patients with CTD there was a significant variability of symptoms. The dyspeptic syndrome, where belching, nausea, vomiting, and a feeling of heaviness in the upper abdomen after meals were observed, was a high frequency of complaints. In patients with CTD, painfulness on palpation of the abdomen in the epigastrium persisted longer after treatment. A milder clinical picture, in which there was no pain syndrome, was observed in 20% of this group. Comparison of endoscopic data of 12 duodenal examination revealed that the state of CS in patients with CTD was characterized by predominance of diffuse hyperemia, while in the comparison group focal hyperemia was revealed more frequently. At the same time nodular relief of duodenal CO of the 12 duodenum and erosions of the bulb were revealed significantly more often in the main group compared to the comparison group. Such signs of inflammation as pastosity of CS (in all patients), thickening of folds, irregular colour, small whitish rashes of "semolina" type were revealed. The results obtained allowed us to suggest a number of practical recommendations: it is necessary to carry out a publicly available assessment of phenotypic signs of CTD, and if dyspeptic complaints are identified. Treatment of VOPT diseases in DST patients should be carried out taking into account initial state of CO of the esophagus, stomach, duodenum and dynamics of clinical manifestations. The results of the study confirm the need for an integrated approach to health assessment and further interaction between specialists of different fields in improving treatment and organizational measures in patients with gastroduodenal diseases.

CONCLUSIONS

Thus, numerous attempts to identify the mechanisms of the influence of connective tissue dysplasia on the development of digestive tract pathology have made it possible to decipher their individual links. Different authors sometimes obtain contradictory results. Many problematic questions remain unresolved. In particular, there is no definitive answer to the most important question: how to help people with connective tissue dysplasia? The lack of a holistic picture of pathogenesis, complex mechanisms of gastrointestinal tract lesions in connective tissue dysplasia leave a wide field for future researchers. In spite of this fact, we have revealed the peculiarities of clinical course of patients with upper gastrointestinal tract pathology in DST, where conditions of upper gastrointestinal tract pathology development were studied. Complex measures of upper gastrointestinal pathology treatment with application of preparations, aimed at normalization of connective tissue metabolism, which significantly accelerated the reduction of destructive, inflammatory changes, were developed.

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(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 140-145
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-21

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

Journal Website: http://usajournalshub.com/index,php/TAJMSPR

Some Features Of Laboratory Indicators Of Micro And Macro-Elementary Condition Of The Organism Of Female Age Women Innormality And In Iron Deficiency

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ABSTRACT

Using unified and developed methods, some hematological, biochemical, and micro-and macronutrient status indicators were studied in women of fertile age with a normal health index and iron deficiency. It is shown that there are certain pathological fluctuations in some hematological, biochemical and essential hematopoietic microelements in women of fertile age with the development of iron deficiency. In particular, there is a hypoproteinemia, hypoferremia, hypozincemia, hypocupremia and hypertransaminasemia.

KEYWORDS

Microelement status, anemia, deficiency, fertile age

INTRODUCTION

Iron deficiency States-latent and manifest iron deficiency have a high prevalence in various regions of the country and in General significantly exceed the critical threshold of

The American Journal of Medical Sciences and Pharmaceutical Research
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Published: February 28, 2021 | **Pages:** 140-145
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IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

30% of the population, when it is necessary to implement national programs for mass prevention and control of anemia [1,2,3,6]. It was found that low iron content in the body leads to a weakening of the immune system, decreases the saturation of tissues with granulocytes and macrophages, inhibits phagocytosis, reduces the response of lymphocytes to stimulation with antigens, as well as the formation of antibodies due to the low activity of enzymes, proteins, and the receptor apparatus of cells that contain iron [4,6].

Despite its name, iron deficiency anemia (IDA) is not the result of iron deficiency alone. Any trace element exerts its biological functions in the context of many other trace elements. They are part of enzymes, vitamins, hormones, and other biologically active substances. Essential trace elements are: iron, iodine, copper, manganese, zinc, cobalt, molybdenum, selenium, chromium, fluorine

As we noted above, one of the main reasons for the development and widespread prevalence of IDA among women of fertile age (VF) is alimentary iron deficiency. At the same time, as practice shows in real life, i.e. in the clinic of diseases, disorders of normal development, conditions for the occurrence of any monodeficiency simply do not exist [4,7]. Even if we can imagine the existence of such a deficiency, for example, iodine deficiency in endemic areas, it is already very soon will interfere monodeficiency state in the absorption and metabolism of other nutrients and nondeficit sure to turn into group or complex. In relation to iron deficiency, according to the literature data, the parallel detection of insufficient provision for other trace elements, vitamins C, PP , B6, folic acid, and vitamin B12 is quite natural [4,6].

Because of this, the cooperative study of various nutrients, primarily those directly related to hematopoiesis, is of great scientific and practical importance.

PURPOSE OF THE STUDY

to study a number of biochemical parameters in healthy women of fertile age and women with iron deficiency.

MATERIAL AND METHODS OF RESEARCH

In order to characterize the biochemical status of healthy women of fertile age with normal hemoglobin health, 48 women aged 20 to 35 years (average age - 23.6 years) and 46 women with iron deficiency aged 20 to 40 years (average age - 31.7 years) permanently residing in the Gijduvan region of Bukhara state were examined. The studied hematological and biochemical parameters were determined by unified methods, as described [5]. The micro- and macronutrient status of the body was analyzed USING quantitative colorimetric methods. The results were processed by methods of variation statistics.

THE RESULTS OF THE STUDY AND THEIR DISCUSSION

The results are shown in table 1.

Table 1 Hematological and biochemical indicators of the nutritional status of VF in normal and iron deficiency

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 140-145
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2021: 5. 64
OCLC - 1121105510

Изученный показатель	ЖФВ здоровые	ЖФВ с дефицитом железа
Гемоглобин, г/л	120.0 -143.0	98.0-118.0
	(128.6 ±1.04)	(110.8 ± 1.01)
Эритроциты, х 10^{12}/л	3.1 -4.4	3.4-5.0
	(3.9 ± 0.04)	(4.0 ± 0.05)
Лейкоциты, х 10^{9}/л	3.9-7.4	3.4-7.2
	(5.6 ±0.36)	(5.0 ±0.32)
Тромбоциты, х 10^{9}/л	200.0-275.0	200.0-275.0
	(240.6 ± 4.56)	(218.0 ±4.12)
Цветной показатель	0.81-1.1	0.70-0.90
	(0.96 ± 0.01)	(0.80 ±0.01)
Билирубин, мкмоль/л	8.9-14.3	9.0-12.3
	(11.4 ±0.21)	(10.8 ±0.15)
Общий белок, г/л	67.0-85.0	60.0-72.0
	(75.3 ± 0.93)	(65.8 ± 0.56)
АлТ, мкмоль/л	13.0-28.0	11.0-36.0
	(19.6 ±0.55)	(18.3 ±0.86)
АсТ, мкмоль/л	15.3-28.3	16.6-31.0
	(21.5 ±0.53)	(22.6 ± 0.65)
Железо, мкмоль/л	13.6-25.6	8.7-13.9
	(18.0 ±1.18)	(11.5 ±0.24)
Цинк, мкмоль/л	14.1-25.9	9.4-15.6
	(19.4 ± 0.47)	(13.3 ±0.21)
Медь, мкмоль/л	10.2-19.0	6.4-12.4
	(14.9 ± 0.35)	(9.3 ± 0.30)
Кальций, ммоль/л	1.97-2.74	1.16-2.20
	(2.59 ±0.13)	(2.50 ± 0.03)
Магний, мкмоль/л	0.50-1.15	0.61-1.10
	(0.765 ± 0.02)	(0.755 ±0.015)
Трансферрин, г/л	3.00-3.60	3.65-4.24
	(3.27 ± 0.01)	(3.97 ± 0.03)
КНТ, %	15.3-34.6	8.0-15.5
	(22.6 ± 0.71)	(11.9 ±0.34)

The American Journal of Medical Sciences and Pharmaceutical Research
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Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-21

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As can be seen from the table below, the average total hemoglobin index in healthy VFS was 128.6 ± 1.04 g / l with a range of fluctuations in this indicator from 120.0 g/l (min) to 143.0 g / l (max). The average level of total hemoglobin was significantly lower (p<0.001) and was 110.8 ± 1.01 g/l for the range of fluctuations of this indicator -98.0 g/l (min) to 118.0 g/l (max).

We did not find a statistically significant difference between other morphological parameters of peripheral blood in the examined healthy VF AND VF with iron deficiency-the number of white blood cells and platelets (p >0.05).

As expected, there is a statistically significant difference between such an important indicator as the color indicator reflecting hypochromia in the examined healthy VFS and VFS with iron deficiency. Thus, in healthy VFS, this indicator is on average 0.96 ± 0.01 with a range of fluctuations of this indicator from 0.81 (min) to 1.1 (max), while in VFS with iron deficiency, this indicator is on average only 0.80 ± 0.01 with a range of fluctuations of this indicator from 0.80 (min) to 0.90 (max) (p <0.001).

The study of biochemical parameters reflecting the functional state of the liver of the examined healthy VFS and VFS with iron deficiency showed that VFS with iron deficiency have bilirubinemia and hypoproteinemia in comparison with healthy VFS. Thus, the average content of the examined GFV iron deficiency bilirubin was 10.8 ± 0.86 μmol/l in the fluctuation of this index from 9.0 μmol/l (min) to 12.3 μmol/l (max), whereas normal, this indicator averaged 11.4 ± 0.21 μmol/l in the fluctuation of this indicator from 8.9 μmol/l (min) to 14.3 μmol/l (max) (p <0.05).

The level of total protein in the blood serum of the examined iron-deficient women averaged only 65.8 ± 0.56 g / l, with the range of fluctuations in this indicator in the examined women 60.0 g/l (min) to 72.0 g / l (max), which indicates the phenomenon of hypoproteinemia in iron-deficient women. The average level of total protein in healthy examined VFS is 75.3 ± 0.93 g/l on average, with the range of fluctuations of this biochemical indicator from 67.0 g/l (min) to 85.0 g / l (max) (p <0.001).

A comparative analysis of serum enzyme parameters in healthy VFS and VFS with iron deficiency did not reveal statistically significant differences between them (p >0.05).

Analysis of the microelement status in healthy GFW and GFW with iron deficiency showed a clear hypoferremia, hypozincemia and hypocupremia have JFW with iron deficiency. Thus, the level of serum iron in FAT with iron deficiency is significantly reduced to an average of 11.5 ± 0.24 mmol/l with a range of fluctuations of this indicator from 8.7 mmol/l (min) to 13.9 mmol/l (max) in comparison with the level of serum iron in healthy FAT-on average 18.0 ± 1.18 mmol/l with a range of fluctuations of this indicator from 13.6 mmol/l (min) to 25.6 mmol/l (max) (p <0.001). The level of serum zinc is also significantly reduced on average to 13.3 ± 0.21 mmol/l with a range of fluctuations of this indicator from 9.4 mmol/l (min) to 15.6 mmol/l (max) in comparison with the level of zinc in the blood serum of healthy VFS-on average 19.4 ± 0.47 mmol/l with a range

The American Journal of Medical Sciences and Pharmaceutical Research
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Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-21

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2021: 5. 64
OCLC - 1121105510

of fluctuations of this indicator from 14.1 mmol/l (min) to 25.9 mmol/l (max) (p <0.001).

The level of another essential hematopoietic trace element copper in iron-deficient VFS is also reduced compared to the same indicator in healthy VFS. So, on average, GFW with iron deficiency, the serum copper is 9.3 ± 0.3 μmol/l in the fluctuation of this indicator from 6.4 mmol/l (min) to 12.4 μmol/l (max), while healthy GFW the level of serum copper average of 14.9 ± 0.35 μmol/l in the fluctuation of this indicator from 10.2 μmol/l (min) to 19.0 μmol/l (max) (p <0.001).

Comparative analysis of the content of essential hematopoietic micronutrients in GFW leads to the conclusion that the average level of zinc in serum prevails over iron levels, and the level of and zinc and iron prevails over the level of copper in serum.

In the content of another trace element magnesium, we did not find statistically significant differences between healthy VFS and VFS with iron deficiency (p >0.05).

The content of the important macronutrient calcium in the blood serum also showed no significant differences in the content of this macronutrient (p >0.05).

Hypertransferrinemia, i.e. compensatory increase in the content of iron-transport protein in the blood serum against the background of hypoferremia, is a characteristic phenomenon for VF with iron deficiency.

So, on average, the content of this protein in the blood serum of VFS with iron deficiency is 3.65 ± 0.03 g/l with a range of fluctuations of this indicator from 3.65 g/l (min) to 4.24 g/l (max), while in healthy VFS this indicator is on average 3.27 ± 0.01 g/l with a range of fluctuations of this indicator from 3.00 g/l (min) to 3.60 g/l (max) (p <0.001).

The saturation of the total pool of serum transferrin with iron in iron-deficient VFS is clearly reduced and averages only 11.9 ± 0.34% with a range of fluctuations of this indicator from 8.0% (min) to 15.5% (max), while in healthy VFS the indicator of transferrin saturation with iron on average is 22.6 ± 0.71% with a range of fluctuations of this indicator from 15.3% (min) to 34.6% (max) (p <0.001).

CONCLUSIONS

Thus, a comparative study of some hematological, biochemical parameters and indicators of micro - and macronutrient status of the body GFW shows that the development of iron deficiency in the body, objectively leads to significant changes in some indicators reflecting the state of the blood, the functional state of the liver and microelement status of the organism. This phenomenon can be used in monitoring the state of the body of the ZHFV, in monitoring the effectiveness of measures taken in these women against the background of developing iron deficiency

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The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 146-154
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-22

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

Journal Website: http://usajournalshub.com/index,php/TAJMSPR

Morphometric Characteristics Of The Spleen Of White Rats In Normal And In Chronic Radiation Disease

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ABSTRACT

In an experimental study, the morphofunctional features of the spleen of 6-month-old white rats were studied in normal conditions and in chronic radiation sickness. The study found that in response to the action of a chronic radiation factor in the spleen of white rats, there is a decrease in structural parameters. This is reflected in the morphological parameters of the organ. As a result, the functional activity of the spleen's lymphoid tissue decreases.

KEYWORDS

Immune system, spleen, lymphoid follicles, chronic radiation sickness.

INTRODUCTION

A living organism cannot be imagined without a protective immune system. One of the most dynamic systems of the body is the immune system of humans and animals, which quickly reacts to the effects of external adverse factors. The immune organs create protection against various pathogenic influences [1,3,8].

Among the peripheral organs of the immune system, the largest and most complex organ is

The American Journal of Medical Sciences and Pharmaceutical Research
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the spleen, which performs filtration, cleansing, immune, hematopoietic and depositing functions [6,9,11].

At the present time, a disease associated with damage to the immune system is increasing in the world. According to researchers from different countries, an increase in the number of such morbidity is associated with environmental pollution, leading to a violation of the protective and adaptive processes of the body [7,12].

Radiation occupies a special place among external unfavorable factors. Radiation has the most destructive effect on the human body and causes profound changes in all organs and systems [2,4,5,10].

Today, an urgent and important problem in science and health is the study of the state of health of a person exposed to radiation from various sources of ionizing radiation. Considering the above, we have set the task of studying the morphological parameters of the spleen of white rats in normal conditions and in chronic radiation sickness.

PURPOSE OF THE STUDY

To study the morphofunctional features of the lymphoid structures of the spleen in 6-month-old white rats under normal conditions and with chronic radiation sickness.

MATERIAL AND METHODS OF RESEARCH

The study was carried out in 22 outbred white male rats weighing from 90 to 130 g, which were kept under standard vivarium conditions. The rats were divided into 2 groups: control group (n = 10), experimental group (n = 12). Irradiation of rats was carried out using the AGAT P1 apparatus (Baltiets plant Narva, Estonia, 1991 release, operation since 1994, recharge in 2007) with a capacity of 25.006 sGr / min for 20 days at a dose of 0.2 Gr. The total radiation dose for rats up to 90 days of age was 4.0 Gr. All experimental studies on animals were carried out in accordance with the "Rules for work using experimental animals."

The animals were weighed and removed from the experiment at 90 days of age by instant decapitation under ether anesthesia.

The spleen was removed from the abdominal cavity. To carry out the morphological and morphometric study of the study, spleen fragments were fixed in a 10% formalin solution, passed through a battery of alcohols, and embedded in paraffin blocks according to standard techniques. Paraffin sections 5-8 μm thick were stained with hematoxylin-eosin and according to Van Gieson. Sections were examined morphometrically, using an eyepiece micrometer DN-107T / Model NLCD-307B (Novel, China), the diameter of the periarterial lymphatic muffs, lymph nodules and their germinal centers, the width of the mantle, marginal and periarterial zones, the relative area of the white pulp and connective tissue elements were measured. Spleen to the total cut area. Measurements were performed in five fields of view of each histological section. The fields of view were chosen at random.

In order to study the cytoarchitectonics of the lymphoid structures of the spleen, the cells were counted using a NOVEL Model NLCD-307 microscope, at a magnification of 10x90, under oil immersion. Cell counting was carried out using a morphometric grid mounted in the eyepiece of the microscope.

The total number of lymphocytes, the number of large, medium and small lymphocytes per

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2021: 5. 64
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unit section area in PALM, in lymphoid nodules without a proliferation center were counted.

With the help directly from the general data matrix "Excel 7.0" on a personal computer Pentium-IV carried out mathematical processing, determined the indices of the standard deviation and the error of representativeness.

THE RESULTS OF THE STUDY AND THEIR DISCUSSION

When studying the spleen of 6-month-old intact rats, it was found that the weight of the animals is in the range from 190 g to 240 g, on average 220.2 ± 5.4 g. The absolute weight of the organ is 0.6-0.9 g, in average – 0.79 ± 0.032 g. Mass index ranges from 0.315% to 0.405%, on average 0.358 ± 0.01%. The weight of the animals in comparison with 3-month-old rats increased by 1.93 times, and the absolute weight of the organ increased by 1.52 times.

The length of the spleen ranges from 26.4mm to 35.7mm, with an average of 31.76 ± 1.0mm. The growth rate is 18.6%. The width of the spleen is in the range of 4.9-7.7 mm, on average – 6.34 ± 0.03 mm. The growth rate is 6.73%. The spleen thickness varied from 2.4 mm to 4.2 mm, on average – 3.12 ± 0.19 mm. The growth rate is equal to 6.85%.

In 6 month old rats of the control group, the relative area of the white pulp of the spleen ranges from 18.2 to 24.6%, on average -20.54 ± 0.69%. (fig. 1). The relative area of the white pulp decreased by 8.1% compared to 3-month-old rats. The relative area of connective tissue elements varied from 5.6% to 6.7%, on average – 6.21 ± 0.12% (to the total area of the spleen section).

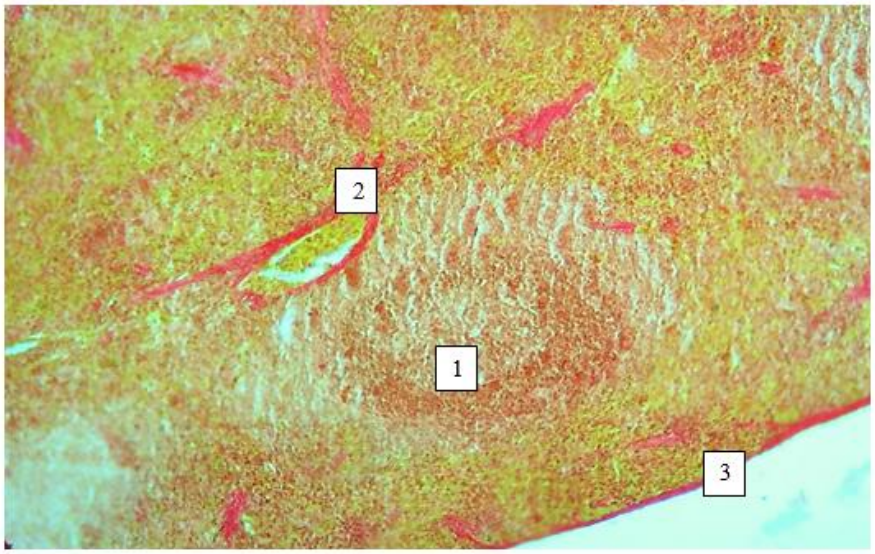

Fig. 1. Spleen of a 6-month-old rat of the control group. Coloring by Van Gizon. ok. 10 x vol. 20. 1-white pulp, 2–trabecula, 3–capsule Spleen.

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The PALM diameter ranges from 128.2 microns to 141.6 microns, on average 136.22 ± 1.55 microns. The growth rate is 3.1%. The diameter of the lymph nodules ranges from 380.8 microns to 477.05 microns, on average 420.96 ± 10.44 microns. The percentage of primary and secondary LUs is 34% and 66%, respectively. The diameter of the germinal centers ranges from 122.4 µm to 147.7 µm, on average 135.08 ± 2.73 µm. The diameter of the LN and germinal centers decreased by 10.7% and 9.42%, respectively, compared to three month old rats. The white pulp LU has a round, oval and elongated shape.

All LN zones can be visually distinguished in microslides. The width of the mantle zone is from 40.5 microns to 50.4 microns, on average 46.56 ± 1.06 microns. The width of the marginal zone ranges from 74.5 µm to 86.2 µm, on average 80.72 ± 1.26 µm. The width of the periarterial zone ranges from 84.9 µm to 94.7 µm, on average 89.42 ± 1.06 µm. (fig. 2). The width of the mantle, marginal and periarterial zones increased by 2.74%, 4.64%, and 5.15%, respectively, in comparison with 3-month-old rats.

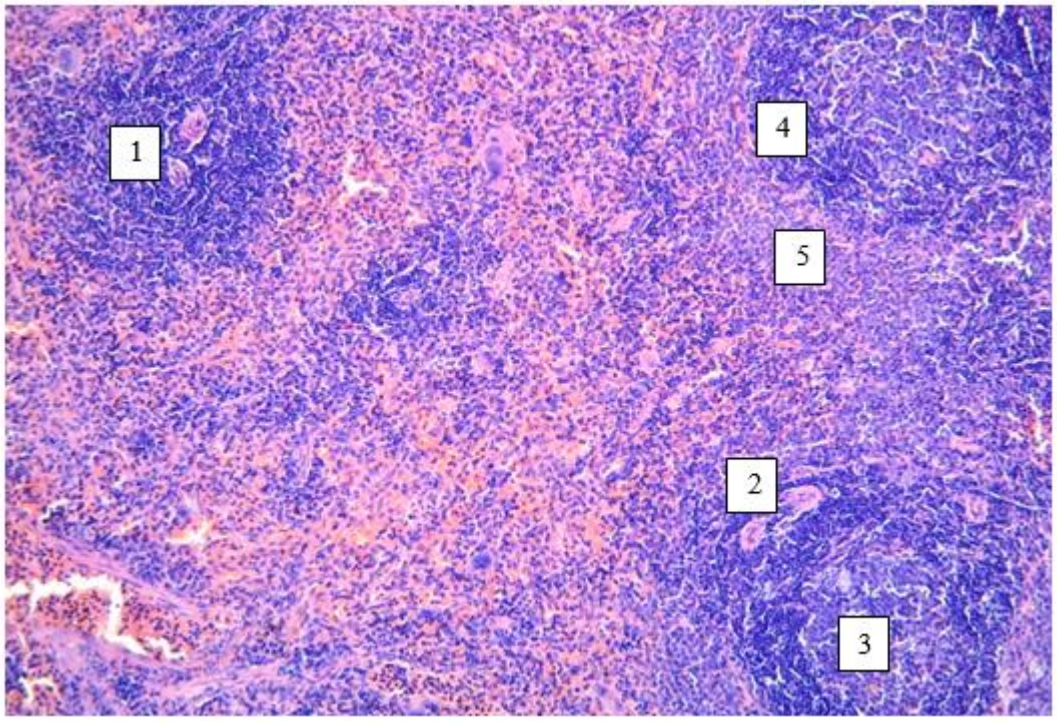

Fig. 2. Spleen of a 6-month-old rat of the control group. Coloration Hematoxylin – eosin. ok. 10 x vol. 20. 1- lymph node, 2-periarterial zone, 3-germinal center, 4-mantle zone, 5-marginal zone.

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IMPACT FACTOR
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OCLC - 1121105510

It was found that the total number of lymphocytes in LN without proliferation centers is 52-61, on average, 57.2 ± 0.97 cells. The total number of lymphocytes in LN without proliferation centers increased by 21.0% in comparison with 3-month-old rats.

Lymphoid nodules without reproduction centers contain (per unit area) small lymphocytes – 37-43, on average – 41.0 ± 0.65 cells, medium lymphocytes – 12-14, on average – 13.0 ± 0.22 cells, large lymphocytes – 3-4, on average – 3.2 ± 0.11 cells.

The total number of lymphocytes in the periarterial lymphoid muffs of the white pulp of the spleen is 53-61, on average 58.4 ± 0.86 cells. The total number of lymphocytes in the periarterial lymphoid muffs of the white pulp of the spleen increased by 23.7% compared with 3-month-old rats.

Periarterial lymphoid clutches contain (per unit area) small lymphocytes -38-43, on average – 41.0 ± 0.54 cells, medium lymphocytes – 11-13, on average – 12.0 ± 0.22 cells and large lymphocytes -5-6, on average – 5.4 ± 0.11 cells. The mass of 6-month-old laboratory animals with chronic radiation sickness is in the range from 170 to 250 g, on average 217.8 ± 7.36 g. The absolute mass of the organ is 0.54 to 0.86 g, on average – 0.73 ± 0.03 g. The mass index ranges from 0.277% to 0.392%, on average 0.335 ± 0.01%. The weight of the animals in comparison with 3-month-old irradiated rats increased by 2.02 times, and the absolute weight of the organ increased by 1.7 times.

The length of the spleen ranges from 27.4 mm to 35.8 mm, with an average of 31.3 ± 0.77 mm. The growth rate is 25.2%. The width of the spleen is in the range of 5.0-7.4 mm, on average – 6.16 ± 0.22 mm. The growth rate is -9.8%. The spleen thickness varied from 2.0 mm to 3.8 mm, on average 3.02 ± 0.16 mm. The growth rate is 12.0%.

According to our data, in 6-month-old irradiated rats, the relative area of the white pulp of the spleen ranges from 13.2% to 20.4%, on average -16.97 ± 0.66% (Fig. 3). The growth rate is 16.23%. The relative area of connective tissue elements varied from 5.8% to 7.0%, on average – 6.53 ± 0.11% (to the total area of the spleen section).

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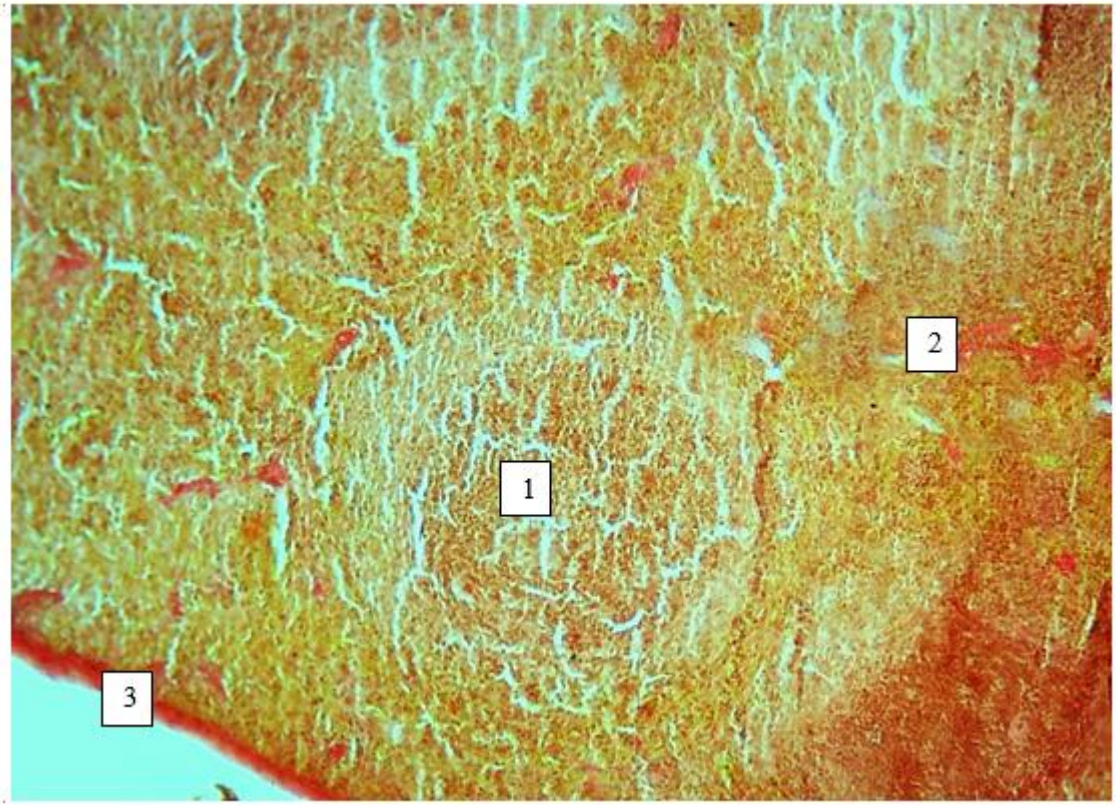

Fig. 3. The spleen of a 6-month-old rat with chronic radiation sickness. Staining by Van Gizon. ok. 10 x vol. 20. 1 – white pulp, 2 – trabecula, 3 – spleen capsule.

The PALM diameter ranges from 120.6 μm to 128.8 μm, on average 123.83 ± 0.75 μm. The growth rate is equal to 24.64%. The diameter of the lymph nodules ranges from 370.3 μm to 436.7 μm, with an average of 399.87 ± 6.1 μm. The growth rate is 104.2%. LUs have HZs. The percentage of primary and secondary LUs is 46% and 54%, respectively. The diameter of the germinal centers ranges from 96.3 μm to 122.8 μm, on average 106.09 ± 2.44 μm. Lymphoid nodules are generally round – oval, elongated (91.8%) and less often irregular (8.2%).

In most cases, the LN zones are clearly visible. The width of the mantle zone ranges from 38.4 μm to 47.6 μm, on average 43.64 ± 0.84 μm. The width of the marginal zone ranges from 69.2 microns to 79.8 microns, on average 74.81 ± 0.98 microns. The width of the periarterial zone ranges from 78.2 microns to 87.4 microns, on average 82.32 ± 0.84 microns. (fig. 4). The rate of increase in the width of the mantle, marginal and periarterial zones is 19.43%, 24.14% and 37.47%, respectively, in comparison with the 3-month-old rats of the irradiated group.

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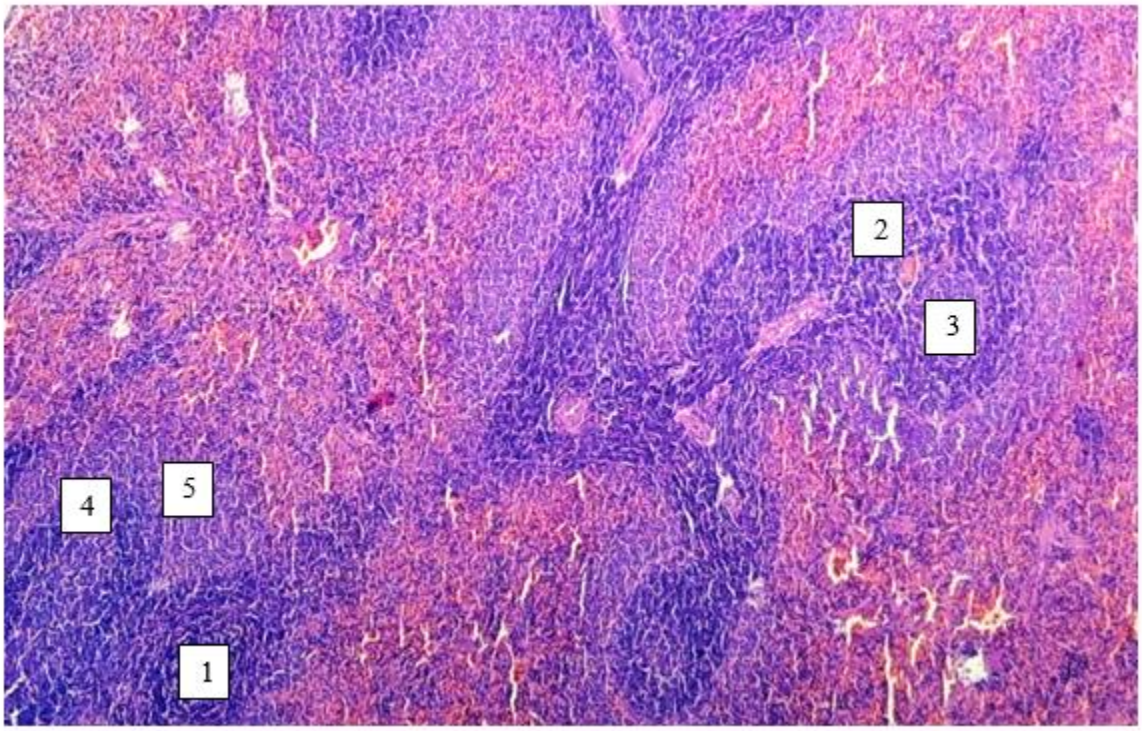

Fig. 4. The spleen of a 6-month-old rat with chronic radiation sickness. Staining with hematoxylin – eosin. ok. 10 x vol. 20. 1- lymph node, 2-periarterial zone, 3-germinal center, 4-mantle zone, 5- marginal zone.

It was found that the total number of lymphocytes in LN without centers of reproduction is 48-57, on average, 53.4 ± 0.83 cells. The total number of lymphocytes in LN without multiplication centers increased by 52.1% compared to 3-month-old irradiated rats.

Lymphoid nodules without reproduction centers contain (per unit area) small lymphocytes – 35-41, on average – 38.7 ± 0.55 cells, medium lymphocytes – 11-13, on average – 12.0 ± 0.18 cells and large lymphocytes – 2-3, on average – 2.7 ± 0.1 cells.

The total number of lymphocytes in the periarterial lymphoid muffs of the white pulp of the spleen is 50-60, on average, 54.2 ± 0.92 cells. The total number of lymphocytes in the periarterial lymphoid muffs of the white pulp of the spleen increased by 54.0% in comparison with 3-month-old irradiated rats.

Periarterial lymphoid clutches contain (per unit area) small lymphocytes -36-43, on average – 38.4 ± 0.64 cells, medium lymphocytes – 10-12, on average – 11.2 ± 0.18 cells and large lymphocytes - 4-5, on average – 4.6 ± 0.1 cells.

CONCLUSIONS

In the spleen and structural formations of the white pulp of white rats with chronic radiation sickness, quantitative changes are observed, which are expressed in the morphological and morphometric parameters of the spleen.

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Irregular shapes (8.2%) of lymphatic nodules are revealed, which are not detected in the spleen of healthy rats. The width of the functional zones of the lymph nodules decreases, as well as the total number of lymphocytes in the lymph nodules without the center of proliferation and periarterial lymphatic muffs by 1.07 and 1.08 times, respectively. This indicates a negative effect of radioactive radiation on the lymphoid structures of the spleen, causing the development and formation of immunodeficiency.

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The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 155-160
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-23

IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

Journal Website: http://usajournalshub.com/index,php/TAJMSPR

Peculiarities Of The Current Of Acute Bronchopulmonary Diseases In Children With Adverse Premorbid Condition

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ABSTRACT

The article also examines the consequences of family relations, the health and age of the mother, the course of pregnancy, premorbid background in the form of childhood rickets, anemia, the state of the immune status in acute pneumonia, bronchiolitis, obstructive bronchitis in children.

Sociopathic families and children with dangerous factors are more likely to suffer from acute respiratory infections, fever, shortness of breath, prolonged coughing and pathological changes in the lungs. Compared to 2014, the incidence of pneumonia decreased by 22.7%, and the number of children with obstructive syndrome increased from 33.4% to 47.5%.

KEYWORDS

Pneumonia, obstructive bronchitis, sociopathology, hazards, immunization.

INTRODUCTION

Frequent respiratory diseases continue to be one of the urgent problems of modern pediatrics. This is due to the significant prevalence of this pathology among children of early and preschool age.

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IMPACT FACTOR
2021: 5. 64
OCLC - 1121105510

Influenza and pneumonia rank first as the cause of death among all infections, and the fifth among the causes of death in children under 5 years of age [8].

According to the World Health Organization (WHO), in 2015, pneumonia took the lives of about 922 thousand children under the age of 5, which accounted for 15% of deaths in this age group.

The respiratory system in children is under the constant influence of a huge number of microorganisms and antigens in the inhaled air, due to which complex defense mechanisms have been formed in the lungs.

Analysis of individual risk factors for a particular patient can significantly affect the course of the disease, prognosis and treatment options. At the forefront among the reasons affecting the health and morbidity of children, currently include unfavorable social factors, as well as an unfavorable premorbid background.

According to the literature, about 63.0% of children live and are brought up in unsatisfactory living conditions, of which 52.1% are non-working mothers, in 23.5% of cases the mother's age is up to 19 years. Early artificial feeding - 91.4%, maternal disease during pregnancy 59.7%, gestosis - 31.4% The worst is the situation in sociopathic families [3,4,5,6].

With the beginning of the introduction of pneumococcal vaccination into the calendar of vaccinations and vaccinations, among the vaccinated from 15 to 70% of cases, the incidence of pneumonia decreased (in children under one year old by 30%, younger than 2 years old by 23.0%).

The presence of premorbid diseases, low adaptive capabilities of the organism cannot but affect the course of acute bronchopulmonary diseases in this contingent of children.

PURPOSE OF THE STUDY

To study the clinical features of the course of acute diseases of the bronchopulmonary system in children of sociopathic families with a premorbid state.

MATERIALS AND METHODS

The study is based on the results of the study of a retrospective analysis of the medical history for 2015-2018 in 3192 children with bronchiolitis, pneumonia and obstructive bronchitis, treated in the somatic departments of the Bukhara Regional Children's Multidisciplinary Medical Center. As part of the surveys, eco-social factors influencing the course and outcome of acute diseases of the lungs and bronchi were studied.

RESULTS

The article presents the results of studies to determine the most significant risk factors for the development of premorbid conditions (chronic eating disorder, anemia, rickets and atopy) in children from sociopathic families. Since 2016, there has been a marked decrease in the incidence of pneumonia, which is associated with the introduction of vaccination against pneumococcal pneumonia.

In the structure of concomitant and background pathology of acute bronchopulmonary diseases in children from sociopathic families, more often than in children from ordinary families, there were chronic eating disorders, anemia, rickets and allergic background.

The American Journal of Medical Sciences and Pharmaceutical Research
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IMPACT FACTOR
2021: 5. 64
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In children with acute bronchopulmonary diseases living in sociopathic families, background pathology was found significantly more often than in the group of children living in ordinary families, which could not but affect the clinical course of this disease.

In our studies, it has been proven that in children from sociopathic families, diseases occurring against the background of malnutrition, anemia, rickets and other concomitant diseases were more often combined with 2 concomitant diseases. In the examined group, 47.1% of children had the underlying disease combined with premorbid disease, and 41.5% of patients had an allergic background.

The structure of patients treated in the Bukhara regional children's multidisciplinary medical center

	2015	**2016**	**2017**	**2018**
Total treated	9070	10532	13465	14025
Respiratory diseases:	3838	2975	2820	3192
%	42,3	28,2	21,0	22,7
Bronchiolitis	1857	1027	1047	1213
%	20,4	34,5	37,1	38,1
Pneumonia	698	651	499	463
%	18,2	21,9	17,7	14,5
Obstructive bronchitis	1283	1297	1274	1517
%	33,4	43,6	45,2	47,5

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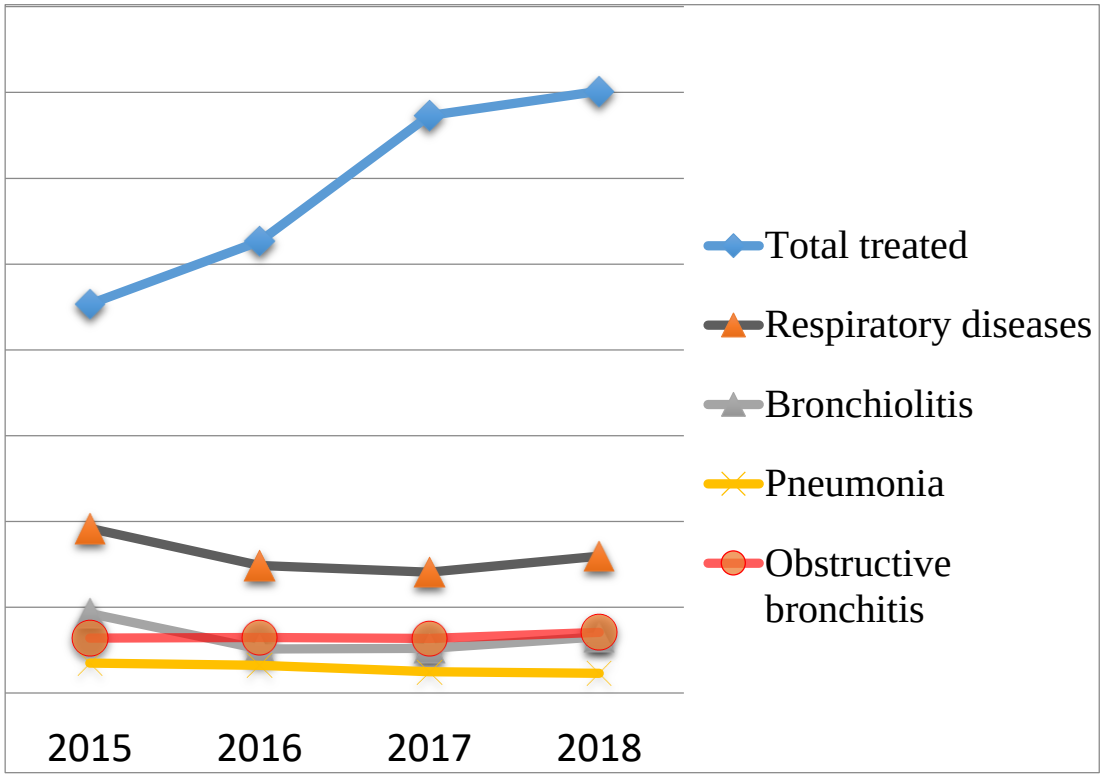
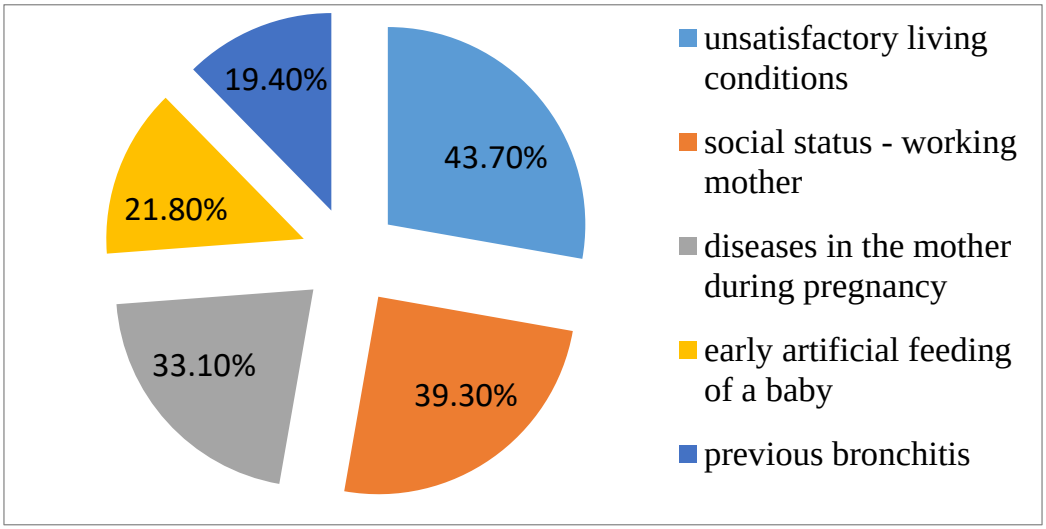


Факторы риска выявлены у детей, из социопатических семей , обладающими наибольшей значимостью:



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In children from sociopathic families and an unfavorable premorbid state, in acute bronchopulmonary diseases, a longer duration of cough, physical abnormalities in the lungs, shortness of breath and fever was established than in children raised in conditions of blog-safe families.

An analysis of the features of the modern course of respiratory disease in children indicates a significant decrease in the severity of the course of bronchopulmonary processes, as well as a significant decrease in pneumonia, in 2015 - 42.3%, and in 2018, respectively, 22.7%, which is associated with the beginning of 2015 with vaccinations against pneumococcal pneumonia.

However, a steadily growing proportion of patients with broncho-obstructive syndrome should be noted. 2015 - 33.4%, 2018 - 47.5% increased by 14.1%. In recent years, there has been a decrease in the number (less than 1%) of all patients with severe and fatal outcomes of the disease.

CONCLUSION

1. In sociopathic families, comorbidities such as chronic eating disorders, anemia, and rickets were more common. The combination of 2 concomitant diseases was found in 2216 children (47.1%), and 41.5% of patients with obstructive bronchitis had an allergic background.
2. Children from sociopathic families and an unfavorable pre-morbid state have a longer fever, shortness of breath, cough, and physical data in the lungs than in children raised in conditions of prosperous families.
3. Reducing the number of patients with severe and fetal outcomes of the disease.
4. There was an increase in the course of respiratory diseases with obstructive syndrome from 33.4% to 47.5%.
5. Reduction of pneumonia since 2015 from 42.3% to 22.7% in 2018, i.e. by 22.7%.

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Published: February 28, 2021 | **Pages:** 155-160
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Published: February 28, 2021 | **Pages:** 161-174
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-24

IMPACT FACTOR 2021: 5. 64
OCLC - 1121105510

Journal Website: http://usajournalshub.com/index,php/TAJMSPR

Determination Of Risk Parameters In The Detection Of Asymptomatic Bone Metastases Of Kidney And Prostate Cancer

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ABSTRACT

Using multivariate analysis to identify predictive risk parameters in the diagnosis of asymptomatic osteogenic metastasis of renal and prostate cancer. The work was based on the results of observations of 105 patients with a morphologically confirmed diagnosis of malignant neoplasm registered at the Republican Specialized Scientific and Practical Center of Oncology and Radiology (RSNPMTSO and R) and the Samarkand branch. In 62 patients with kidney cancer (RP) included in the study, the mean age of patients with RP was 58.3 years. 43 patients with prostate cancer (PC) were included in the study, the average age of patients with PC was 68 years. We analyzed such parameters as age, stage of the disease, timing of detection of bone metastasis (BM), prevalence, type and size of BM, as well as additional criteria: in case of prostate cancer - the size of the primary tumor and the degree of malignancy, in case of prostate cancer - the sum of points on the Gleason scale and the prostate - specific antigen (PSA). It was revealed that the highest risk in detecting BM in RP was noted for the stage of the disease, p = 0.006. Also, a high risk was associated with the size and grade of tumor malignancy, with CR at p = 0.006 and p = 0.008, respectively. Among the listed, the highest risk in detecting BM is observed in prostate cancer for the stage of the disease (p = 0.001). In addition, an increased risk was observed for the Gleason score and PSA level (p = 0.013 and p = 0.008, respectively). Thus, during the 2-year follow-up, BM most often develops in patients with kidney cancer at stage Tv-T3a stage and with grade G III and in patients with prostate cancer - in the presence of stage III with a Gleason score of ≥ 7 and a level PSA in the range of 21-50 ng / ml.

KEYWORDS

Patients, vessels, treatment, pathology, cancer, distant bone metastases.

The American Journal of Medical Sciences and Pharmaceutical Research
(ISSN – 2689-1026)
Published: February 28, 2021 | **Pages:** 161-174
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-24

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OCLC - 1121105510

INTRODUCTION

The defeat of the bones of the skeleton of a metastatic nature in malignant neoplasms today remains a serious problem of modern oncology. [Lipton, A. The Science and Practice of Bone Health in Oncology: Managing Bone Loss and Metastasis in Patients With Solid Tumors / A. Lipton // J. Nat. Compr. Canc. Netw. – 2009. – Vol. 7. – P. 1-29].

According to the Cancer Registry, 44.8% of prostate cancer with a local form, 53.4% of cases with disseminated and metastatic form were diagnosed in Uzbekistan, ranking 7th from the total number of cancer patients. Out of 236 patients examined and treated with prostate cancer, distant bone metastases were observed mainly in 75–80% of cases with spread to skeletal bones (pelvic bones, spinal bones, humerus, femur and other organs, tissues). [Tillyashaikhov M.N, Yusupov Sh. Kh., Boyko E.V, Valieva R.M. Criteria for choosing hormonal therapy for patients with advanced prostate cancer // Bulletin of the Tashkent Medical Academy. - 2016. - No. 2 (05). - S. 95–97). The incidence of kidney cancer in Uzbekistan has significant geographic variability, "... the incidence of this tumor in 2013 had an indicator of 8.4 per 100 thousand of the population, then at the end of 2017 this figure was at the level of 8.9. In 2013, the 1-year mortality rate was within 0.5%, in 2017 the data did not change and the 1-year mortality rate was also within 0.5%, which indicates an improvement in diagnosis and treatment ... " that the detection and treatment of this pathology has improved, but bone metastases in renal cell carcinoma also remain an urgent problem [Tillyashayakhov M.N., Rahimov N.M., TillyashayakhovaR.M. Long-term results of modified surgical access to regional lymph nodes and main vessels in the treatment of renal cell carcinoma// European science review. – Vienna, 2018.-№5-6. -P. 204-207) 90% of cases of neoplastic lesions of the spine are metastases, and more often they are multiple. The problem of treatment of compression syndrome in patients with metastatic lesions of the spine is one of the most important and complex Rahimov Nodir, Shakhanova Shaxnoza Development of new approaches in treatment of metastatic renal cell carcinoma// Journal of research in health science Volume 5-6 issue. 4 2020, pp. 82-95 ISSN 2523-1251 (Online)), p 82-95

At the same time, the main problem is a sharp decline in the patient's quality of life. Providing timely and adequate care improves the condition and quality of life of these patients, although with single metastatic lesions of the bones there is the possibility of surgical treatment, but with multiple lesions with metastases this type of treatment is not rational.

The nature of the damage to the skeletal system in malignant neoplasms is diverse and includes complications of the skeletal system associated with antitumor treatment (osteopenia and osteoporosis), in itself its damage by a tumor or metastases, as well as complications associated with bone metastases Bunyod Saidkulov, Jurabek Abduraxmonov, Rahimov Nodir. Recurrent ovarian cancer: mechanisms of development of peritoneal malignant ascites//.

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Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-24

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2021: 5. 64
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Bone metastases develop in 30% of cancer patients, and most often secondary bone damage occurs in patients with breast cancer, cancer, kidney cancer (RP), prostate cancer (PC), and lung cancer and myeloma [S Ziyadullaev, O Elmamatov, N Raximov, F Raufov Cytogenetic and immunological alterations of recurrent bladder cancer// European Journal of Molecular & Clinical Medicine 2020, Volume 7, Issue 2, p 1877-1883.

The survival rate of patients with metastatic lesions of the skeleton directly depends on the timing of the detection of metastases. Unfortunately, the vast majority of patients at the stage of diagnosis of bone metastases (BM) already have pain syndrome, which is often the only manifestation of skeletal damage. It should be noted that as a result of the progression of the tumor process, bone complications inevitably develop (pathological fractures, malignant hypercalcemia, etc.), which significantly reduce the quality of life of patients and directly affect its duration. [Bunyod Saidkulov, Jurabek Abduraxmonov, Rahimov Nodir. Recurrent ovarian cancer: mechanisms of development of peritoneal malignant ascites//. European Journal of Molecular & Clinical Medicine ISSN 2515-8260 Volume 7, Issue 2, 2020, p 2423-2428]. The median overall survival of patients after the development of bone metastases is 2–3 years. By themselves, bone metastases in breast cancer are rarely an immediate cause of death. At the same

In this regard, special attention is paid to the study of the skeleton, which is carried out to assess the prevalence of the tumor process, study the objective response to treatment and monitor the course of the disease. [Rahimov Nodir, Shakhanova Shaxnoza Development of new approaches in treatment of metastatic renal cell carcinoma// Journal of research in health science Volume 5-6 issue. 4 2020, pp. 82-95 ISSN 2523-1251 (Online)), p 82-95]. In the treatment of patients with bone metastases, systemic anticancer and radiation therapy, surgery and drugs aimed at suppressing bone resorption can be involved. The specific role of each method is determined by the prevalence of bone lesions, tumor type, and life expectancy. Surgical treatment of osteogenic metastases has narrow indications, and external beam radiation therapy is also limited in the treatment of multiple bone metastases of solid tumors. aggressive surgical tactics are considered justified in case of solitary skeletal lesions. Due to the fact that ESWL and brachytherapy are local types of antitumor effects, these methods of treatment have limitations in case of multiple metastatic lesions of the skeleton. Treatment of patients with CM is a promising area that requires active development and widespread implementation in clinical practice. It has been shown that with a modern and timely therapeutic approach in patients with metastatic skeletal lesions, in most cases, as a result of palliative treatment, a positive effect can be achieved, consisting in an increase in the objective response, a decrease in the frequency of bone complications and an increase in the survival rate of patients while maintaining a high level of quality of life.

Purpose: Using multivariate analysis to identify predictive risk parameters in the diagnosis of asymptomatic osteogenic metastasis of renal and prostate cancer

MATERIALS AND METHODS

The work was carried out at the Department of Oncology of the Samarkand Medical Institute.

The American Journal of Medical Sciences and Pharmaceutical Research
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A retro and prospective study was carried out to study the results of palliative treatment of patients with kidney and prostate cancer with clinically asymptomatic bone metastases, who were treated on an outpatient and inpatient basis at the Republican Specialized Scientific and Practical Center of Oncology and the Samarkand regional branch.

The work was based on the results of observations of 105 patients with a morphologically confirmed diagnosis of malignant neoplasm.

The distribution of patients with RP by age was carried out according to the WHO classification and is presented in Table 1. Of the 62 patients with RP included in the study, the vast majority were aged 45 to 59 years (46.3%) and from 60 to 74 years (41%) ... At the same time, the average age of patients with RP was 58.3 years.

Table 1- Age characteristics of patients with RP

Age	Number of patients with RP
18–44 лет	6 (9,6%)
45–59 лет	28 (45,1%)
60–74 лет	25 (40,3%)
75–90 лет	3 (4,9%)
≥ 90 лет	---
Всего	62 (100%)

The distribution of patients with RP by the size of the primary tumor is shown in Table 2. In most cases, the size of the primary tumor in patients with RP was T2v-T3a (75.7%). Much less often renal neoplasms were T4 (17.7%) and T2a (7.5%).

The American Journal of Medical Sciences and Pharmaceutical Research
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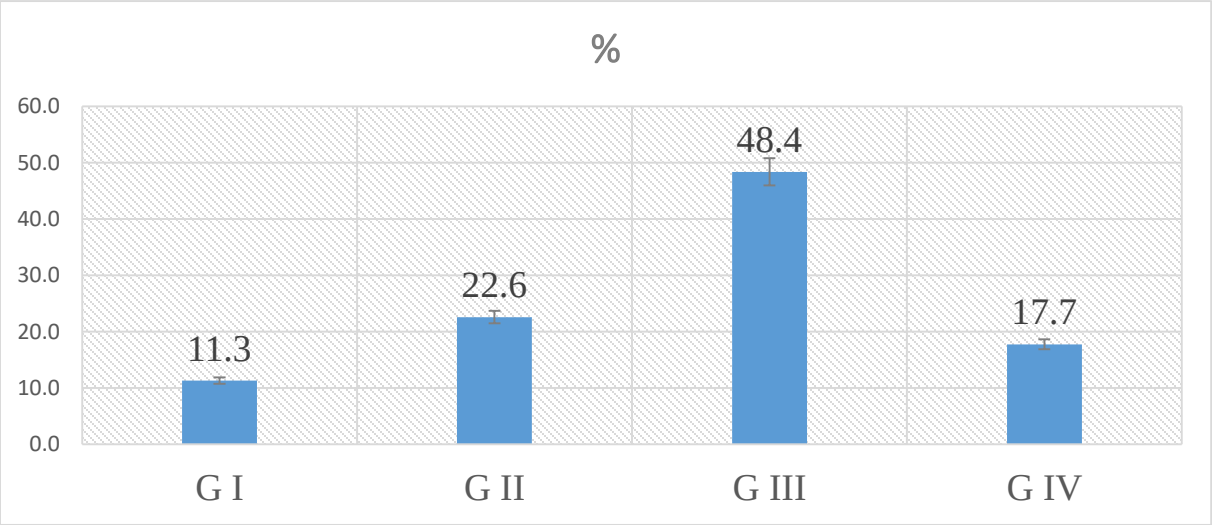
Table 2 - Characteristics of patients with RP by the size of the primary tumor

Tumor size	Number of patients with RP
T2a	4 (7,5%)
T2в	22 (35,4%)
T3a	25 (40,3%)
T4	11 (17,7%)
Total	62 (100%)

In all patients, the diagnosis of RP of varying degrees of malignancy was confirmed by morphological examination. Data on the degree of malignancy of the primary tumor in patients with RP are presented in Table 3.

In almost half of the patients with RP (50.7%), the primary tumors had grade III. Less often, primary RP tumors were grade II (29.1%) and I (20.2%).

Figure 1 Characteristics of patients with RP by the degree of malignancy of the primary tumor



At the start of the study, 9 (14.5%) of 62 patients with RP with BM had distant metastases of extraosseous localization. Subsequently, during the study, in 19 (30.6%) patients with RP with metastatic lesions of the skeleton, secondary foci outside the skeletal system were identified. Thus, in 23 (37.1%) patients with RP, in addition to BM, metastases of extraosseous localization were recorded (Table 5). The discrepancy between the number of extraosseous metastases and the total number of patients is explained by the fact that in some cases, one patient simultaneously developed metastases in different organs.

The American Journal of Medical Sciences and Pharmaceutical Research
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Table 5 - Characteristics of extraosseous metastases in breast cancer patients

Localization of extraosseous metastases	Number of extraosseous metastases
Liver	7 (11,3%)
Lungs	5 (8,1%)
Pleural carcinomatosis	5 (8,1%)
Distant lymph nodes	6 (9,7%)
Brain	1 (1,6)
Soft tissue	1 (1,6%)
Total	25

The age characteristics of 43 patients with prostate cancer are presented in Table 7. According to the data presented, patients with prostate cancer prevailed at the age of 60 to 74 years (23 patients) and from 75 to 90 years (11 patients). The average age of patients with prostate cancer was 68 years.

Table 7 - Age characteristics of patients with prostate cancer

Age	Number of patients with prostate cancer
18–44 years	---
45–59 years	9 (20,9%)
60–74 years	23 (53,5%)
75–90 years	11 (25,6%)
Over 90 years old	---
Total	43 (100%)

The prevalence of the tumor process in patients with prostate cancer was presented as follows: T3 stage - 9 (20.9%) patients and T4 stage - 34 (79.1%) patients.

Characteristics of prostate cancer patients by PSA level are presented in Table 8. At the time of the diagnosis of prostate cancer, the majority of patients (64.5%) had PSA levels in the range from 21 to 50 ng / ml. In a significantly smaller number of cases (30.2%), the PSA level was increased to 20 ng / ml, and very rarely (5.3%) the indicator was at the level from 51 to 100 ng / ml.

The American Journal of Medical Sciences and Pharmaceutical Research
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Table 8 - Characteristics of prostate cancer patients by PSA level

PSA level	Number of patients with prostate cancer
up to 20 ng/ml	13 (30,2%)
21–50 ng/ml	28 (65,1%)
51–100 ng/ml	2(4,7%)
more than100 ng/ml	---
Total patients	43 (100%)

According to the morphological study of biopsy material, a moderate degree of tumor aggressiveness according to the Gleason scale (7 points) prevailed, which was detected in 19 (44.2%) patients with prostate cancer. An almost equal number of patients with prostate cancer had high (2–6 points) and low (8–10 points) tumor differentiation - 10 (23.3%) and 14 (32.6%) patients, respectively (Table 9).

Table - 9 Characteristics of prostate cancer patients according to the Gleason scale

Points total	Number of patients with prostate cancer
2-6 points	10 (23,3%)
7 points	19 (44,2%)
8–10 points	14 (32,6%)
Total	43(100%)

At the beginning of the study, 7 (16%) of 43 patients with prostate cancer with BM had distant metastases of extraosseous localization: lung damage - 4 (56%) and liver - 3 (44%). At the same time, in addition to BM, 1 patient with prostate cancer was found to have multiple combined metastatic lesions of the lungs and liver.

The somatic status in patients with prostate cancer on the ECOG scale ranged from 0 to 2 points (Table 10). Most often, the ECOG status was 0 points (60.5%), less often the functional state of patients was assessed at 1 (23.3%) and 2 (16.3%) points.

The American Journal of Medical Sciences and Pharmaceutical Research
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Table 10 - Characteristics of patients with prostate cancer by ECOG status.

Points	Number of patients with prostate cancer
0	26 (60,5%)
1	10 (23,3%)
2	7 (16,3%)
Total	43 (100%)

The groups of patients with prostate cancer and prostate cancer with symptomatic and asymptomatic BM were comparable in terms of age, clinical and morphological characteristics of the tumor, stage, localization of BM, which made it possible to correctly conduct a comparative analysis of treatment results.

Quality of life analysis was carried out 3 months after the start of palliative treatment using questionnaires from the European Organization for Research and Treatment Cancer. The survival rate of patients after palliative treatment was determined according to the following criteria: median time to progression, median overall survival, and 3-year survival of patients with BM. Observed survival curves were plotted according to the survival method.

RESULTS

According to the analysis, at the end of 36 months of observation, 19 (30.6%) of 62 patients with RP were diagnosed with CM. When BM was detected at the indicated time, all 19 patients with RP were aged from 45 to 59 years, had IIb – III stage of the disease, the size of the primary tumor T2b-T3a and the grade of malignancy G III. In other cases, in 43 (69.8%) patients with RP, the covariates were different and BM was diagnosed at a later follow-up period.

The American Journal of Medical Sciences and Pharmaceutical Research
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Table 11 - The results of constructing a proportional risk model for BM detection in patients with RP

Variables in an equation		Covariates			
		Age	Tumor size	Stage	Grade of malignancy
B (coefficient regression)		– 0,020	0,258	1,120	0,773
S.E. (standard mistake)		0,014	0,095	0,359	0,293
Wald (Wald test)		2,131	7,407	9,730	6,967
df (degree of freedom)		1	1	1	1
p (significance)		0,144	0,006	0,002	0,008
Exp (B) or risk coefficient (KP))		0,980	1,294	3,065	2,167
95,0% CI для Exp (B)	Lower	0,953	1,075	1,516	1,220
	Upper	1,007	1,558	6,195	3,848

The data presented indicate a statistically significant effect on the development of the event (CM) of such covariates as the size of the primary tumor, the stage of the disease, and the tumor grade. The highest risk in detecting BM in RP was noted for the stage of the disease, the CR was 95% CI 3.065 (from 1.516 to 1.558), p = 0.006. In addition, a high risk was associated with the size and grade of tumor malignancy; the CR was 95% CI 1.294 (from 1.075 to 1.558), p = 0.006 and 95% CI 2.167 (from 1.220 to 3.848), p = 0.008, respectively.

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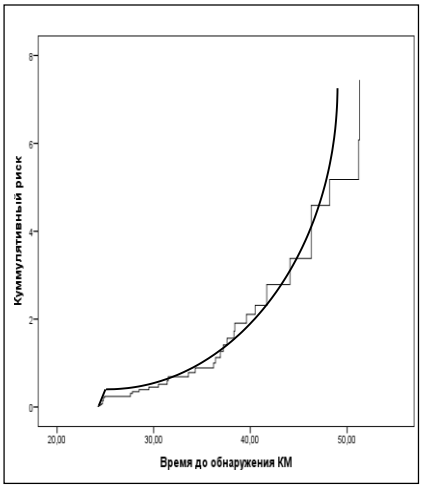

Cumulative predicted risk of BM detection in RP for the mean values of each of the covariates. In this case, the horizontal axis is the time before the event, and the vertical axis is the cumulative risk. A small segment of the initial section of the curve, corresponding to 24 months, represents a steep rise, since at this stage 13 cases were noted with the influence of all significant covariates at the same time. After this period of time, the risk curve looks more flattened.

When analyzing the proportional hazards model in patients with prostate cancer, it was found that after 24 months of follow-up, 7 (26.9%) of 26 patients with prostate cancer were diagnosed with BM. When BM was detected at the indicated time, all 7 patients with prostate cancer were between the ages of 60 and 74 years, had stage III of the disease, the Gleason score ≥ 7, and the PSA level in the range of 21-50 ng / ml. In other cases, in 19 (73.1%) patients with PCa, the covariates were different and BM was detected at a later date. The calculation results are presented in Table 12.

The American Journal of Medical Sciences and Pharmaceutical Research
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Table 12 - Construction results proportional risk models of BM detection in patients with prostate cancer

Variables in an equation		Covariates			
		Age	Stage	Gleason score	PSA
RC (regression coefficient)		– 0,009	2,013	0,518	0,067
S.E. (standard error)		0,031	0,616	0,208	0,293
Wald (Wald test)		0,095	10,686	6,216	6,967
df (degree of freedom)		1	1	1	1
p (significance)		0,758	0,001	0,013	0,008
Exp (B) or risk coefficient (KP)		0,991	7,488	1,679	2,167
95.0% CI for Exp (B)	Lower	0,932	2,239	1,117	1,220
	Upper	1,052	25,039	2,524	3,848

The results of the statistical data shown in Table 24 indicate that the stage of the disease, the sum of the Gleason scores, and the PSA level have a significant effect on the onset of an event in prostate cancer. Among the listed covariates, the highest risk in detecting CM is observed for the stage of the disease, the CR at which was 95% CI 7.488 (from 2.239 to 25.039), p = 0.001. In addition, an increased risk was observed for the Gleason score and PSA level. With these covariates, the CR was 95% CI 1.679 (1.117 to 2.524), p = 0.013 and 95% CI 2.167 (1.220 to 3.848), p = 0.008, respectively.

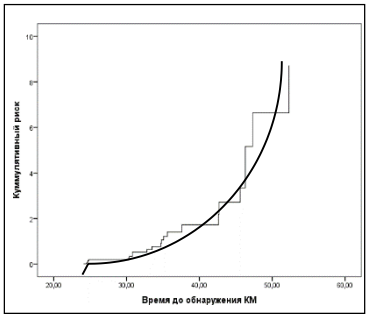

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Figure: 4. Risk function for mean values of covariates at RP

There was no statistically significant effect of the age of prostate cancer patients on the onset of the event, since the CR was 95% CI 0.991 (from 0.932 to 1.052), p = 0.758. Thus, the risk of CM in patients with RP increases

with stage III by 7.5 times, with a Gleason score of 1.7 times and a PSA level in the range from 21 to 50 ng / ml by 2.2 times.

On the curve of the risk function of detecting BM in prostate cancer, shown in Figure 4, in the initial section corresponding to 24 months of observation, a segment with a steep rise is presented, due to the same reasons as in breast cancer. After this period of time, the risk curve looks more flattened.

DISCUSSION

Santoni et al. studied patients with bone metastases from RCC and found that patient age, ECOG status, histology, MSKCC prognostic score, presence of concomitant metastases, and time from nephrectomy to bone metastases [TTBM] are significant factors associated with prognosis [Santoni M., Conti A., Procopio G., Porta C., Ibrahim T., Barni S. Bone metastases in patients with metastatic renal cell carcinoma: are they always associated with poor prognosis? J. Exp. Clin. Canc. Res. 2015; 34 (1): 1]. In our case, the influence of age as a prognostic factor was not identified.

Kume et al. analyzed 94 patients with mRCC with bone metastases and using multivariate analysis found that sarcomatoid differentiation of RCC, involvement of the spinal bones in the process, extraosseous metastases were significant risk factors that adversely affect overall survival [Kume H., Kakutani S., Yamada Y., Shinohara M., Tominaga T., Suzuki M. Prognostic factors for renal cell carcinoma with bone metastasis: who are the long-term survivors? J. Urol. 2011; 185 (5): 1611-1614]. The results of our research work showed that the size of the primary tumor, the stage of the disease and the grade of malignancy are a significant prognostic marker (p = 0.006).
Age was found to be unrelated to survival in 80% of the included studies. Sex was not associated with survival - 79% Masood Umer, Yasir Mohib, * Muhammed Atif, and Muhammad Nazim Skeletal metastasis in renal cell carcinoma: A review \\ Ann Med Surg (Lond). 2018 Mar; 27: 9–16.Published online 2018 Jan 31. doi: 10.1016 / j.amsu.2018.01.002. The results of our study also confirmed that gender in metastatic kidney cancer is not a significant prognosis criterion.

As indicated by Bollen L. on the assessment of prognostic factors in patients with metastases in the spinal bone, seventeen adverse prognostic factors were identified, including the classification of the primary tumor and the assessment of efficacy. Bollen, L., Jacobs, W.C.H., Van der Linden, Y.M. et al. A systematic review of prognostic factors predicting survival

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in patients with spinal bone metastases. Eur Spine J 27, 799-805 (2018). https://doi.org/10.1007/s00586-017-5320-3

As a result of scientific work, we also come to the conclusion that visceral metastasis with osteogenic metastasis are unfavorable indicators. However, the large degree of heterogeneity found in most pooled risk factors indicates that meta-analysis may not be the most ideal approach to addressing this topic.

Bone alkaline phosphatase (ALP), when used in combination with PSA, may be an effective independent marker for predicting the risk of metastatic disease in bone, as reported in Study 203. Men with previously untreated asymptomatic prostate cancer Crawford, ED, et al. , Challenges and recommendations for early identification of metastatic disease in prostate cancer. Urology, 2014.83 (3): p. 664-9. In our case, a significant factor was the stage of the disease and the sum of points on the Glisson scale and the PSA level (p = 0.001).

According to F Ruatta, in 64 patients (21%) bone was the only site of metastasis, 236 patients (79%) had concomitant metastases elsewhere. In multivariate analysis, concomitant metastases remained predictors of poor prognosis European Journal of Cancer.

Prognosis of Renal Cell Carcinoma With Bone Metastases: Experience From a Large Cancer Center Eur. J. Cancer 2018 Dec 11; 107 (xx) 79-85, F Ruatta, L Derosa, B Escudier, E Colomba, A Guida, G Baciarello, Y Loriot, K Fizazi, L Albiges, which is confirmed by our research.

FINDINGS

Thus, BM most often during the 2-year follow-up period develops in patients with kidney cancer at stage Tv-T3a and stage C and grade G III, in patients with PCa - in the presence of stage III with a Gleason score of ≥ 7 and PSA level in range of 21-50 ng / ml. Patients with PC and PC with a high risk of BM development 24 months after the completion of radical treatment are shown to use the entire diagnostic algorithm in order to identify asymptomatic bone metastases, assess the effectiveness of treatment, and also for dynamic monitoring of this category of patients.

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Published: February 28, 2021 | **Pages:** 161-174
Doi: https://doi.org/10.37547/TAJMSPR/Volume03Issue02-24

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