DOI: https://doi.org/10.32345/2664-4738.4.2020.05
UDC: 616.724:617.721]-07+616.61/.63:617.721]-07

IRIS CHANGES AT PATIENTS WITH TEMPOROMANDIBULAR JOINT DISEASES AND URINARY SYSTEM PATHOLOGY

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Relevance. In recent years, many have been devoted to the problem of the temporomandibular joint (TMJ) diseases, in which the attention is paid to the widespread pathology of TMJ at young people, which develops against the background of genetically-determined weakness of connective tissue (CTs), which is also present occurrence of various concomitant diseases of polygenic-multifactorial nature, including the organs of the urinary system (US).

The study of the state of the iris is used as a screening technique that allows you to quickly, simply, harmlessly, informatively, painlessly, non-invasively diagnose the genetically determined structural and functional state and quality of the CTs.

Objective. To investigate the iris changes at patients with TMJ and US diseases, to reveal the dependence of the occurrence of degenerative-dystrophic and destructive-inflammatory changes in the joints and US on the structural and functional state of the CTs, to supplement the known traditional methods of diagnosing genetically determined CTs weakness.

Materials and methods. The study involved 54 patients (men – 14, women – 40), whose average age were 37.3±7.6 years, who were treated at the Dental Medical Center of the Bogomolets NMU. Control group – 22 patients (men – 10, women – 12) without general somatic pathology, with a physiological bite, without signs of TMJ diseases, whose average age was 25.7±6.8 years. Main group – 22 patients (men – 4, women – 28) with TMJ diseases and US pathology, whose average age were 31.6±7.7 years.

Iridobiomicroscopy was performed in patients of both groups. Iridogenetic constitutional signs were determined: color of eyes, constitutional type after E.S. Velkhover, type with the connective tissue weakness after I. Deck, density of iris stoma.

The obtained laboratory data were referenced in the International System of Units and processed by variational statistics using MedStat and EZR v.1.35 (Saitama Medical Center, Jichi Medical University, Saitama, Japan, 2017), which is a graphical interface to RFSC (The R Foundation for Statistical Computing, Vienna, Austria).

Results. Among the examined patients with TMJ diseases and MVS pathology, 75% showed predominantly light eye color and V degree (46.9%) of iris stroma density, in the control group: dark iris color (54.5%) and II degree (68.2%) of iris density.

Iridogenetic constitutional signs of the CT weakness in the patients with TMJ diseases have been determined: light color of eyes, radial-lacunar constitutional type after E.S. Velkhover (75%), lymphatic constitutional type with the connective tissue weakness after I. Deck (57,9%).

Structural local or chromatic changes of the iris stroma in the projection region of the kidney (75%) and bladder (43.6%) in young patients with TMJ diseases showed a congenital weakness of the CTs of these organs and a tendency to develop pathology of the US.

Conclusions. Patients with degenerative-dystrophic and destructive-inflammatory diseases of the TMJ and concomitant US pathology are characterized by iridogenetic constitutional signs of the CTs weakness in the patients with TMJ diseases have been determined: light color of eyes, radial-lacunar constitutional type after E.S. Velkhover, low degree of iris stroma density, lymphatic constitutional type with the connective tissue weakness after I. Deck.

Structural local or chromatic changes of the iris stroma in the projection region of the kidney and bladder in young patients with TMJ diseases showed a congenital weakness of the CTs of these organs and a tendency to develop pathology of the US.

It can be assumed that the development of TMJ diseases in young patients is based on dysplastic changes in the CTs system, which is additionally manifested in the examined patients by pathological changes in the US.

Iridobiomicroscopy, as a screening technique for determining the structural and functional state of CTs, makes it possible to increase the accuracy of diagnostics when examining patients with TMJ diseases who have concomitant pathology of internal organs, including US.

Keywords: temporomandibular joint, connective tissue, kidneys, urinary system, iris, iridobiomicroscopy.

Relevance. The urgency of the problem of diagnosing the state of the temporomandibular joint (TMJ) is due to the high prevalence of joint diseases in persons of different sexes and ages, develops against the background of genetically determined connective tissue (CTs) weakness, which is at the same time the basis for the occurrence of various concomitant diseases of a polygenic multifactorial nature. , including organs of the urinary system (UC) [1-3].

The common origin of the US and the CTs system, a significant number of connective tissue elements involved in its structure, with congenital weakness and inferiority of CTs elements, determine the development of various pathologies of the kidneys and urinary tract [4-6].

The TMJ is built from different types of connective tissue: the ligamentous apparatus and connective tissue capsule, articular cartilage, fibrous disc cartilage, CTs layers between the masticatory muscle bundles, therefore there is a high likelihood of developing TMJ pathology in case of inferiority of connective tissue elements [2, 7, 8].

The use of the method of iridology in dental surgery and maxillofacial surgery is due to the need to consider diseases of the temporomandibular joints in the plane of

organismic multiple organ pathology, which is caused by genetically determined weakness of the connective tissue, pathology of internal organs and body systems; to carry out early diagnosis of concomitant diseases, depending on their iridovisceral manifestations, to predict the long-term possible realization of organ weakness and the course of diseases, to identify a number of dysfunctions and diseases in the preclinical stage of disease development [9].

Iridology is a method for indicating diseases with adaptive trophic changes in the iris of the eye (IE).

It is known that the iris is a unique structure onto which all organs of the human body are projected, and reflects congenital defects associated with the state of connective tissue and are fixed in the genotype by the fourth generation inclusive [2, 10-12]. IE mainly consists of structural elements CTs. Due to their superficial location, the IE connective structure is easily accessible for examination by biomicroscopy.

The folding structure of the iris determines the formation of a large number of various informative signs on it - chromatic or structural local changes in the stroma: enlightenment, pigment and toxic spots, inclusions, rosy fiber, lacunae, rings, radiance, and the like. Evaluation of these changes, taking into account the projection zones of the human body (somatotopic division) into IE, allows with a certain accuracy to establish the location of the pathological focus, taking into account the iridovisceral connection, to carry out nonspecific topical diagnosis of diseases [11, 12].

Iridological studies indicate that the genetically determined state of CTs as a whole reflects the constitutional type, the density of trabecular fibers, and the color of IE as well. [10, 11].

In this regard, iridology is used as a screening technique that allows you to quickly, simply, harmlessly, informatively, painlessly, non-invasively diagnose a genetically determined structural-functional state and quality of CTs in patients with TMJ and US diseases [9].

Objective. To investigate the iris changes at patients with TMJ and US diseases, to reveal the dependence of the occurrence of degenerative-dystrophic and destructive-inflammatory changes in the joints and US on the structural and functional state of the CTs, to supplement the known traditional methods of diagnosing genetically determined CTs weakness.

MATERIALS AND METHODS

The study involved 54 patients (men – 14, women – 40), whose average age was 37.3±7.6 years, who were treated at the Dental Medical Center of the Bogomolets NMU. Control group – 22 patients (men – 10, women – 12) without general somatic pathology, with a physiological bite, without signs of TMJ diseases, whose average age was 25.7±6.8 years. Main group – 22 patients (men – 4, women – 28) with TMJ diseases and US pathology, whose average age were 31.6±7.7 years.

Examination of patients were carried out according to the method of examination of patients with TMJ diseases. Orthopantomography with examination of the heads of the lower jaw, radiography of the TMJ with an open mouth behind Parma, computed tomography (CT) or magnetic resonance imaging (MRI) of the TMJ, iridobiomicroscopy were mandatory.

Iridobiomicroscopy was carried out to diagnose the genetically determined state of CTs of the organism, as evidenced by the structure of the iris of the eye.

IE eyes were examined visually (iridoscopy) with the naked eye and using a magnifying glass with a magnification of 6 times (biomicroscopy), photographed with a Nikon D60 digital camera (iridography), after which the image was stored in a PC database. If necessary, the image was processed using graphic editors and programs GIDRA, ESID-3, Adoble Photoshop CS5 12.0, and ACDSee Pro6 Photo Manager. To establish an iridological diagnosis, patients were examined in the first half of the day between 11 and 13 o'clock, when the pupils have the smallest size, general and local changes in the IE are clearly manifested.

The color of the iris of the eyes (light, dark), the density of trabeculae was determined according to the method of Jensen B. (I-VI degrees) [11], iridogenetic type according to E.S. Velkhover (radial, radially uniform, radially lacunar) [10], iridogenetic constitutional type according to Deck I. (lymphatic, hematogenous, mixed constitution) [10, 11].

The color of the iris of the eye is a genetic trait, inherited by a dominant or recessive route and depends on the number of pigment cells in the stroma. Light-eyed patients have weak protective filters of the iris, which contributes to the development of an imbalance between the protective function of the iris and the regulation of the energy potential of the reticular formation, which is the basis for certain changes in the human body [10-12].

Of great importance for iridodiagnostics is the density of the iris, which is determined by the proximity of the fibers to each other, the fineness of the structures. A clean, dense iris is a sign of a healthy body. The density of the iris structure determines the viability of the body, reflects muscle tone, resistance, the ability to repair various tissues. Iris with dense fibers indicates that a person has good restorative forces, sufficient regenerative potential. Looseness of the fibers indicates low resistance and weak innate regenerative activity. The degree of density of the iris makes it possible to predict the occurrence and course of severe diseases, indicates the genetic characteristics of man [9-12].

The following degrees of density of the iris of the eye have been identified [10]: I, II degrees – a dense stroma, characteristic of people with good health and heredity, strong musculoskeletal system; III degree – trabeculae stretched, weakened, tortuous, which indicates a weak connective tissue of organs and systems of the body. Such people have increased fatigue, low resistance,

predisposition to dysfunctions, which often turn into diseases; IV degree – thinned fibers are tortuous, the gaps between them are elongated, oval in shape. The absence of a homogeneous stroma indicates a low tone of organs and tissues, which indicates poor health, painful response to changes in external and internal factors; V, VI degrees – weak and very weak structure of the connective tissue of the iris. The stroma of the iris of the eye has numerous depressions and cavities that change the color of the iris, dramatically deforming the structure of the circle of the autonomous ring. This structure of the iris indicates the presence of severe hereditary (genetic) [10, 11] and acquired diseases, weak constitution and low body defenses.

Belonging to one of the iridogenetic types also indicates the characteristics of the human body. The radial type, determined by the method of E.S. Velkhover [10], has thin fibers that fit tightly to each other. The radial homogeneous type combines a radial pattern with a dense, homogenously colored ciliary circle. The first and second types are a sign of good constitution and good health. The radial-lacunar type has a thinned, loose connective tissue stroma with scattered depressions – lacunae, which resembles a thin, in places ruptured plate with a chaotic pattern of trabeculae and crypts. This type is inherent in people with a weaker constitution, who often get sick, complain of dysfunction of various organs.

For a more detailed study and a complete reflection of the relationship between the morpho-functional features of the iris and the body as a whole, the iridogenetic constitutional type was determined according to I. Deck [10-12]. Research and taxonomy of iris types was carried out on the basis of analysis of individual areas and the general picture of the iris, taking into account its color and the presence of certain structural signs.

There are the following iridogenetic constitutional types:

1). *Lymphatic constitution*, which includes the following types: *purely lymphatic type* – blue or gray primary color, labile stroma, tortuous, unstable passage of trabeculae in the miliary belt, a clear autonomous ring; *hydrogenoid type*, in which endogenous pathogenic factors were manifested by signs in the form of light flakes and lymphatic rosary (white "pearls" on the periphery of the iris); *type with weakness of CTs* – the presence of a large number of gaps, cracks in the stroma of the iris, atrophy of elastic CTs, its genetically determined weakness; *neurogenic type* – blue or brown eye color, fibrous structure with a clear pattern, straight, stretched iris trabeculae.

2). *Hematogenous constitution* includes *purely hematogenous and latent tetanic types*. Hematogenous constitution is characterized by the presence of brown IE. The latent tetanic type, regardless of color, is characterized by pronounced spastic (adaptation) rings and toxic radiance of the iris.

3). *Mixed constitution (bile type)* – the main layer of IE in most cases has a blue-gray color, and the crypt layer – brown.

In the future, the iris was inspected by topographic zones and sectors. We studied the central part of the iris – the pupil area, which corresponds to the projection of the gastrointestinal tract (GIT), and the ciliary area – the projection of most organs and systems. According to the scheme of projection zones of the human body B. Jensen, the urinary system is projected on the right iris (in hours): bladder and ureters – 4.45-5.00, kidneys – 5.30-5.55 and on the left iris: kidneys – 6.05-6.30, bladder and ureters – 7.0-7.15; and the TMJ sector is located at 10.30-10.45 on the right eye and 1.15-1.30 on the left [9, 11]. The following signs were determined: structural (sinuous, whitish iris fibers, stroma defoliation, lacunae); toxic-dystrophic (lymphatic rosary, toxic radiance, pigmentation); reflex (adaptation rings, protrusion/retraction of the autonomous ring).

The obtained laboratory data were referenced in the International System of Units and processed by variational statistics using MedStat and EZR v.1.35 (Saitama Medical Center, Jichi Medical University, Saitama, Japan, 2017), which is a graphical interface to RFSC (The R Foundation for Statistical Computing, Vienna, Austria). [13].

RESULTS AND DISCUSSION

According to X-ray examination, all patients of the main group (100%) had some degree of structural changes in the TMJ and concomitant pathology of the urinary system, diagnosed by a nephrologist. The surveyed persons of the control group did not have these changes.

The vast majority of patients in the study group were women – 28 people (87.5%), young men with TMJ disease on the background of pathology of the urinary system were less common – 4 (12.5%), which correlates with the literature on the prevalence of this type of disease in patients of different sexes [1, 2].

As a result of the study, patients were diagnosed with pathology of the kidneys and urinary tract: chronic cystitis – 12 (37.5%) cases; oxalate or urate crystalluria – 12 (37.5%); nephroptosis – 3 (9.4%); urolithiasis – 2 (6.3%); chronic pyelonephritis – 2 (6.3%); double kidney – 1 (3.1%).

Patients in the control group, according to anamnestic data, had isolated changes in the urinary system: acute cystitis was found in 1 (4.5%) person, and oxalate crystalluria in 1 (4.5%) of the subjects.

In the analysis of iris in patients of the main group, dark eye color was found in 8 people, light – in 24, which was, respectively, 25% and 75% of the total number of subjects in the group. The degree of density of

trabeculae according to Jensen B.: I – 0, II - 2 (6.25%), III – 2 (6.25%), IV – 11 (34.4%), V – 15 (46.9 %), VI – 3 (9.4%). In the control group, dark iris color was diagnosed in 12 (54.5%) people; light – in 10 (45.6%). The density of iris trabeculae was: I – 5 (22.7%); II – 15 (68.2%); III – 2 (9.1%) people. In the group of persons with pathological changes in the TMJ, the light color of the eyes prevailed, the most common was the V degree of density of the iris. Long thin and tortuous trabeculae formed gaps and indicated a significant weakness of the CTs of the body. The control group was dominated by dark iris color and I and II degrees of iris density, which indicated good health, unencumbered heredity, good regenerative potential.

The existing hereditary predisposition to connective tissue weakness in patients with degenerative-dystrophic and destructive-inflammatory processes in the TMJ and pathology of the urinary system was detected in the determination of iridogenetic constitutional types by Velkhover E.S. Analysis of iridobiomicroscopic examination data showed that the main group of patients was dominated by radial-lacunar type of iris – 24 people, which was 75% of the total number of patients in the group. Radial-type iriss had 5 (15.6%) persons, and radially-homogeneous – 3 (9.4%). The control group had: radial-lacunar type of iris – 5 (22.7%), radial – 12 (54.5%), radially homogeneous – 5 (19.23%).

The obtained values suggest that internal degenerative-dystrophic and destructive-inflammatory changes in the TMJ and pathology of the urinary system were associated with genetically determined weak structural and functional state of the connective tissue of the subjects, which is characteristic of iris with radial-lacunar type of stroma.

Detailed determination of the iridogenetic constitutional type according to Deck I. was carried out on the basis of the analysis of separate sites and the general picture of an iris, taking into account color of an iris and existence of these or those structural signs.

According to the obtained data, in the main group the majority of patients had a lymphatic constitution – 19 (59.4%) persons, hematogenous and mixed constitution were less common – 5 (15.6%) and 8 (25%), respectively. Types of lymphatic constitution were distributed as follows: type with connective tissue weakness – 11 (57.9%), purely lymphatic – 5 (26.3%), hydrogenoid – 2 (10.5%), neurogenic – 1 (5.3%)). Hematogenous constitution had a purely hematogenous type – 3 (60%), latent tetanic – 2 (40%). The mixed constitution was represented by the bile type – 8 (100%).

The distribution of iridogenetic constitutional type in the control group differed: lymphatic constitution was represented by only two types: purely lymphatic – 7 (31.8%) and neurogenic – 2 (9.1%). Hematogenous constitution: 5 (22.7%) of the examined had a purely hematogenous type, 1 (4.6%) had a latent tetanic type, and 7 (31.8%) had a mixed constitution.

Examination of the iris of the eye by topographic areas, sectors, conducted in patients with pathology of the TMJ and urinary system, showed that the projection of the kidneys and urinary system had the following changes: gaps, deflection and tortuosity of stroma fibers, protrusion of the autonomic ring, pigment spots, toxin`s and lymphatic rosary. The examination took into account the structural and toxic-dystrophic signs that appeared on at least one of the irises [2]. These changes in the projection of the kidneys were in 24 (75%) patients, and changes in the bladder – in 14 (43.6%) people. Manifestations of nephroptosis, abnormalities of kidney development, chronic pyelonephritis, cystitis, crystalluria, which were found in patients with arthropathies of the TMJ, are a marker of genetic weakness of the urinary system.

Patients with crystalluria and urolithiasis were more likely to have brown eyes, a combination of structural signs of the iris (lacunae, fibrous stroma) with chromatic ones (pigment spots, pigment sand). In patients with nephroptosis, reflex (protrusion of the autonomic ring) and structural disorders of the iris stroma in the form of trabecular deposition were predominant. Individuals with chronic cystitis had changes in the projection area of the bladder in the form of tortuosity of the iris trabeculae, stroma fibers, the presence of toxic and lymphatic rosary.

Thus, after a detailed analysis of iridogenetic features of the iris of the eye, analyzing the anamnestic data of patients and features of the condition of the iris of the eye, we can assume that light eye color, radial-lacunar constitutional type according to Velkhover E.S., type with connective tissue weakness according to Deck I., reduced density of the iris stroma (V degree) in the subjects are genetically determined traits that indicate a weak connective tissue system, reduced protective properties of the body, reduced organ tone and are the basis for the development of various dysfunctions and various pathologies, including degenerative dystrophic lesions of the TMJ and diseases of the urinary system.

CONCLUSIONS

1. Patients with degenerative-dystrophic and destructive-inflammatory diseases of the TMJ and concomitant US pathology are characterized by iridogenetic constitutional signs of the CTs weakness in the patients with TMJ diseases have been determined: light color of eyes (75%), radial-lacunar constitutional type after E.S. Velkhover (75%), lymphatic constitutional (59.4%), type with the connective tissue weakness after I. Deck (57.9), low of iris stroma density (V degree – 46.9%).

2. Detected structural local or chromatic changes of the iris stroma in the projection of the kidneys (75%) and bladder (43.6%) in patients of the main group indicated a congenital weakness of CT of these organs and a tendency to develop pathology of the urinary system.

3. Based on the results of our studies, we can assume that the development of TMJ in young patients is based

on dysplastic changes in the CTs system, which are additionally manifested in the examined patients by pathological changes in the urinary system.

4. Iridobiomicroscopy, as a screening technique for determining the structural and functional state of CTs, makes it possible to increase the accuracy of diagnostics when examining patients with TMJ diseases who have concomitant pathology of internal organs, including US.

Sources of funding. This article has not received financial support from a government, community, or commercial organization.

REFERENCES

1. De Rossi S.S., Greenberg M.S., Liu F., Steinkeler A. Temporomandibular disorders: evaluation and management. *Med Clin North Am*. 2014 Nov; 98(6): 1353-84. DOI: https://doi.org/10.1016/j.mcna.2014.08.009.
2. Volovar O.S. [Diagnosis and treatment of diseases of the temporomandibular joint on the background of somatic diseases]. Extended abstract of Doctor's thesis. Kyiv 2013; NMU [in Ukrainian] URL: http://irbis-nbuv.gov.ua/cgi-bin/irbis_nbuv/cgiirbis_64.exe?&I21DBN=EC&P21DBN=EC&S21STN=1&S21REF=10&S21FMT=fullwebr&C21COM=S&S21CNR=20&S21P01=0&S21P02=0&S21P03=I=&S21COLORTERMS=0&S21STR=%D0%A0%D0%90402871
3. Luther F., Layton S., McDonald F. Orthodontics for treating temporomandibular joint (TMJ) disorders. *Cochrane Database Syst Rev*. 2016 Jan 7; (1): CD006541. DOI: https://doi.org/10.1002/14651858.cd006541.pub3.
4. Bebeshko V.G., Bruslova K.M., Volodina T.T., Lyashenko L.O., Tsvetkova N.M., Trychlib I.V., **Chernysh T.O., Boyarskiy V.G., Gonchar L.O., Kavardakova N.V.** [Features of clinical symptoms and signs, hematological and biochemical parameters in children with joint hypermobility in a late period upon the chornobyl npp accident]. *Probl Radiac Med Radiobiol*. 2019 Dec; 24: 322-34. [Article in En, Ukrainian]. PMID: **31841477.** DOI: https://doi.org/10.33145/2304-8336-2019-24-322-334.
5. Kalayeva G.Yu., Khokhlova O.I., Deev I.A., Mikheenko G.A. [Risk factors associated with the development of undifferentiated connective tissue dysplasia]. *Bulletin of Siberian Medicine.* 2018; 17(2): 41-8. [in Russian]. DOI: https://doi.org/10.20538/1682-0363-2018-2-41-48.
6. Mambetova A.M., Shabalova N.N., Kravtsova A.A., Indarokov T.R. [Renin-aldosterone system reaction peculiarities in children with urinary organs congenital developmental anomalies combined with varying severity connecting tissue dysplasia syndrome]. *Pediatr*. 2012; 3(2): 30-6. [in Russian]. URL: https://cyberleninka.ru/article/n/osobennosti-reaktsii-renin-aldosteronovoy-sistemy-u-detey-s-vrozhdennymi-porokami-razvitiya-organov-mochevoy-sistemy-na-fone-sindroma/viewer.
7. Kravchenko A.I. [Undifferentiated dysplasia of the connective tissue of the musculoskeletal system (diagnosis, treatment)]. *Trauma*. 2014;15(1):118-24. [in Russian]. URL: https://cyberleninka.ru/article/n/nedifferentsirovannaya-displaziya-soedinitelnoy-tkani-oporno-dvigatelnoy-sistemy-diagnostika-lechenie/viewer.
8. Kadurina T.I., Abbakumova L.N. [Connective tissue dysplasia: way to diagnosis]. *Bulletin of the Ivanovo Medical Academy.* 2014; 19 (3); 5-11. [in Russian]. URL: https://cyberleninka.ru/article/n/displaziya-soedinitelnoy-tkani-put-k-diagnozu/viewer
9. Volovar O.S., Malanchuk V.O., Tsilenko O.L., Kryzhanivska O.O. [Iridodiagnostics in Maxillofacial Surgery]. *Dentistry news*. 2010; 4: 25-30. [in Ukrainian]. URL: https://www.elibrary.ru/item.asp?id=22704139
10. Velhover E.S. [Clinical iridology]. Moscow: Orbita, 1992. 423 p. [in Russian]. URL: https://www.avito.ru/moskva/knigi_i_zhurnaly/klinicheskaya_iridologiya._velhover_e._s.novaya_853473547
11. Ernst E. Iridology: a systematic review. *Forsch Komplementarmed*. 1999 Feb; 6(1):7-9. PMID: 10213874. DOI: https://doi.org/10.1159/000021201.
12. Potebnya G.P., Lisovenko G.S., Krivenko V.V. [Clinical and experimental iridology]. Kyiv: Naukova dumka, 1995. 262 p. [in Russian]. URL: http://www.library.univ.kiev.ua/ukr/elcat/new/detail.php3?doc_id=1037232
13. Hur'yanov V.H., Lyakh Yu.Ye., Pariy V.D., Korotkyy O.V., Chalyy O.V. Biostatistics Guide. Analysis of medical research results in the EZR (R-statistics) package: textbook. Kyiv. 2018; 207. [in Ukrainian]. URL: https://www.researchgate.net/profile/Yaroslav_Tsekhmister/publication/326271449_Posibnik_z_biostatistiki_analiz_rezultativ_medicnih_doslidzen_u_paketi_EZR_R-STATISTICS/links/5b436d09aca2728a0d664341/Posibnik-z-biostatistiki-analiz-rezultativ-medicnih-doslidzen-u-paketi-EZR-R-STATISTICS.pdf

Conflicts of interest: authors have no conflict of interest to declare.
Received: 25.11.2020
Revised: 11.12.2020
Accepted: 22.12.2020

ЗМІНИ ІРИСА У ПАЦІЄНТІВ ІЗ ЗАХВОРЮВАННЯМИ СКРОНЕВО-НИЖНЬОЩЕЛЕПНОГО СУГЛОБА ТА ПАТОЛОГІЄЮ ОРГАНІВ СЕЧОВИДІЛЬНОЇ СИСТЕМИ

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Актуальність. За останні роки проблемі захворювань скронево-нижньощелепного суглоба (СНЩС) присвячено багато епідеміологічних робіт, у яких звернено увагу на широку поширеність патології СНЩС у осіб молодого віку, що розвивається на фоні генетично-детермінованої слабкості сполучної тканини (СТ), що є водночас підґрунтям для виникнення різноманітних супутніх захворювань полігенно-мультифакторної природи, в тому числі органів сечовидільної системи (СВС).

Дослідження стану ірису ока використовувують як скринінг-методику, що дозволяє швидко, просто, нешкідливо, інформативно, безболісно, неінвазивно діагностувати генетично обумовлений структурно-функціональний стан та якість СТ організму.

Мета. Вивчити стан ірису ока у пацієнтів із захворюваннями СНЩС і СВС, виявити залежність виникнення дегенеративно-дистрофічних і деструктивно-запальних змін у суглобах та СВС від структурно-функціонального стану СТ організму, доповнити відомі традиційні способи діагностики генетично-схильної слабкості СТ.

Матеріали та методи. Проведено обстеження 54 пацієнтів (чоловіків – 14, жінок – 40), середній вік яких становив 37,3±7,6 років, що перебували на консультації та лікуванні в стоматологічному медичному центрі НМУ імені О.О. Богомольця. Контрольна група склала 22 особи (чоловіків – 10, жінок – 12) без загальносоматичної патології, з фізіологічним прикусом, без ознак ураження СНЩС, середній вік яких склав 25,7±6,8 років. До основної групи увійшло 32 пацієнти (чоловіків – 4, жінок – 28) із захворюваннями СНЩС, середній вік яких становив 31,6 ± 7,7 років, із дегенеративно-дистрофічними захворюваннями СНЩС і супутньою патологією СВС.

Проводили іридобіомікроскопію у пацієнтів обох груп. Визначали колір райдужної оболонки (РО) ока (світлий, темний), щільність розташування трабекул за методикою Jensen B., іридогенетичний тип за Вельховером Е.С., іридогенетичний конституціональний тип за Deck I.

Отримані дані лабораторних досліджень наводили в Міжнародній системі одиниць та обробляли методами варіаційної статистики з використанням пакету MedStat та статистичного пакету EZR v.1.35 (Saitama Medical Center, Jichi Medical University, Saitama, Japan, 2017).

Результати. Серед обстежених пацієнтів із захворюваннями СНЩС і патологією СВС у 75% виявлено переважно світлий колір очей та V ступінь (46,9%) щільності строми іриса, в контрольній групі – темний колір ірису (54,5%) та II ступінь (68,2%) щільності РО.

Для пацієнтів із дегенеративно-дистрофічними та деструктивно-запальними змінами в СНЩС був характерний радіально-лакунарний конституційний тип за Вельховер Е.С. (75%), лімфатична конституція (59,4%), тип зі слабкістю СТ за Deck I (57,9%).

Виявлені структурні локальні чи хроматичні зміни строми райдужної оболонки ока в проекційній ділянці нирок (75 %) і сечового міхура (43,6 %) у пацієнтів молодого віку із захворюваннями СНЩС свідчили про наявну вроджену слабкість СТ зазначених органів та схильність до розвитку патології СВС.

Висновки. Для пацієнтів із дегенеративно-дистрофічними та деструктивно-запальними захворюваннями СНЩС і супутньою патологією СВС характерні іридогенетичні конституційні ознаки слабкості СТ: світлий колір очей, радіально-лакунарний конституційний тип за Вельховер Е.С., лімфатична конституція, тип зі слабкістю СТ за Deck I., низька щільність строми іриса.

Виявлені структурні локальні чи хроматичні змін строми РО ока в проекційній ділянці нирок і сечового міхура у пацієнтів основної групи свідчили про наявну вроджену слабкість СТ зазначених органів та схильність до розвитку патології СВС.

Можна припустити, що в основі розвитку захворювань СНЩС у пацієнтів молодого віку лежать диспластичні зміни в системі СТ, які додатково проявляються у обстежених пацієнтів патологічними змінами СВС.

Проведення іридобіомікроскопії, як скринінг-методики визначення структурно-функціонального стану СТ, дозволяє підвищити точність діагностики при обстеженні пацієнтів із захворюваннями СНЩС, які мають супутню патологію внутрішніх органів, у тому числі захворювання СВС.

Ключові слова: скронево-нижньощелепний суглоб, сполучна тканина, нирки, сечовидільна система, райдужна оболонка ока, іридобіомікроскопія.

ИЗМЕНЕНИЯ ИРИСА У ПАЦИЕНТОВ С ЗАБОЛЕВАНИЯМИ ВИСОЧНО-НИЖНЕЧЕЛЮСТНОГО СУСТАВА И ПАТОЛОГИЕЙ ОРГАНОВ МОЧЕВЫДЕЛИТЕЛЬНОЙ СИСТЕМЫ

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Актуальность. За последние годы проблеме заболеваний височно-нижнечелюстного сустава (ВНЧС) посвящено много эпидемиологических работ, в которых обращено внимание на широкую распространенность патологии ВНЧС у лиц молодого возраста, которая развивается на фоне генетически детерминированной слабости соединительной ткани (СТ), что является одновременно основой для возникновения различных сопутствующих заболеваний полигенно-мультифакторной природы, в том числе органов мочевыделительной системы (МВС).

Исследование состояния ириса глаза используют как скрининг-методику, позволяющую быстро, просто, безвредно, информативно, безболезненно, неинвазивно диагностировать генетически детерминированное структурно-функциональное состояние и качество СТ организма.

Цель. Изучить состояние ириса глаза у пациентов с заболеваниями ВНЧС и МВС, выявить зависимость возникновения дегенеративно-дистрофических и деструктивно-воспалительных изменений в суставах и МВС от структурно-функционального состояния СТ организма, дополнить известные традиционные способы диагностики генетически детерминированной слабости СТ.

Материалы и методы. Проведено обследование 54 пациентов (мужчин – 14, женщин – 40), средний возраст которых составлял 37,3 ± 7,6 лет, находившихся на консультации и лечении в стоматологическом медицинском центре НМУ имени А.А. Богомольца. Контрольная группа составила 22 человека (мужчин – 10, женщин – 12) без общесоматической патологии, с физиологическим прикусом, без признаков поражения ВНЧС, средний возраст которых составил 25,7 ± 6,8 лет. В основную группу вошло 32 пациента (мужчин – 4, женщин – 28) с заболеваниями ВНЧС, средний возраст которых составил 31,6 ± 7,7 лет, с дегенеративно-дистрофическими заболеваниями ВНЧС и сопутствующей патологией СВС.

Проводили иридобиомикроскопию у пациентов обеих групп. Определяли цвет радужной оболочки (РО) глаза (светлый, темный), плотность расположения трабекул по методике Jensen B., иридогенетический тип по Вельховеру Е.С., иридогенетический конституциональный тип по Deck I.

Полученные данные лабораторных исследований приводили в Международной системе единиц и обрабатывали методами вариационной статистики с использованием пакета MedStat и статистического пакета EZR v.1.35 (Saitama Medical Center, Jichi Medical University, Saitama, Japan, 2017).

Результаты. Среди обследованных пациентов с заболеваниями ВНЧС и патологией МВС у 75% выявлены преимущественно светлый цвет глаз и V степень (46,9%) плотности стромы ириса, в контрольной группе – тёмный цвет ириса (54,5%) и II степень (68,2%) плотности РО.

Для пациентов с дегенеративно-дистрофическими и деструктивно-воспалительными изменениями в ВНЧС был характерен радиально-лакунарный конституциональный тип по Вельховеру Е.С. (75%), лимфатическая конституция (59,4%), тип со слабостью СТ по Deck I. (57,9%).

Выявленные структурные локальные или хроматические изменения стромы радужной оболочки глаза в проекционной зоне почек (75%) и мочевого пузыря (43,6%) у пациентов молодого возраста с заболеваниями ВНЧС свидетельствовали об имеющейся врожденной слабости СТ указанных органов и склонность к развитию патологии МВС.

Выводы. Для пациентов с дегенеративно-дистрофическими и деструктивно-воспалительными заболеваниями ВНЧС и сопутствующей патологией СВС характерны иридогенетические конституциональные признаки слабости СТ: светлый цвет глаз, радиально-лакунарный конституциональный тип по Вельховеру Е.С., лимфатическая конституция, тип со слабостью СТ по Deck I., низкая плотность стромы ириса.

Выявленные структурные локальные или хроматические изменений стромы РО глаза в проекционной зоне почек и мочевого пузыря у пациентов основной группы свидетельствовали об имеющейся врожденной слабости СТ указанных органов и склонности к развитию патологии МВС.

Можно предположить, что в основе развития заболеваний ВНЧС у пациентов молодого возраста лежат диспластические изменения в системе СТ, что дополнительно проявляется у обследованных пациентов патологическими изменениями МВС.

Проведение иридобиомикроскопии, как скрининг-методики определения структурно-функционального состояния СТ, позволяет повысить точность диагностики при обследовании пациентов с заболеваниями ВНЧС, которые имеют сопутствующую патологию внутренних органов, в том числе заболевания МВС.

Ключевые слова: височно-нижнечелюстной сустав, соединительная ткань, почки, мочевыделительная система, радужная оболочка глаза, иридобиомикроскопия.