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Реферати

УЛЬТРАЗВУКОВЕ ДОСЛІДЖЕННЯ І КОЛЬОРОВА ДОППЛЕРОГРАФІЯ У ДІАГНОСТИЦІ МІОМИ МАТКИ У ЖІНОК З СИНДРОМОМ ХРОНІЧНОГО ТАЗОВОГО БОЛЮ

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У статті розглянуті питання ультразвукового дослідження і колірної доплерографії в діагностиці міоми матки у жінок з синдромом хронічного тазового болю. Ехографическое дослідження органів малого таза в 3D-режимі і колірна доплерографія були проведені 84 пацієнткам з міомою матки. При обстеженні пацієнток з міомою матки особлива увага була приділена визначенню топографії органів малого таза, розташуванню міоматозних вузлів і їх кровопостачанню, а також оцінювався стан матки. Показано, що Високороздільна 3D-ехографія в режимі колірного допплера може надати певну допомогу клініцистам в установці причини синдрому тазових болів у пацієнток з міомою матки. При проведенні дослідження були виділені наступні типові ультразвукові ознаки проліферирующей міоми матки: неоднорідна структура пухлини, підвищена ехогенність, гіперехогенние включення, анехогенние порожнини різних розмірів і форм. Для оцінки периферичної гемодинаміки у хворих з міомою матки і ступеня васкуляризації міоматозних вузлів було застосовано допплерометричне дослідження і кольорове доплерівське картування. Кольорове доплерівське картування і допплерометрії проводилися в правій і лівій маткових артеріях, променевих артеріях, в периферичних артеріях, що живлять міому, а також в центральних, внутрішньопухлинних судинах.

Ключові слова: міома матки, тазовий біль, УЗД, кольорова доплерографія.

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ULTRASOUND AND COLOR DOPPLER IN THE DIAGNOSIS OF UTERINE FIBROIDS IN WOMEN WITH CHRONIC PELVIC PAIN SYNDROME

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The article deals with the issues of ultrasound examination and color dopplerography in the diagnosis of uterine fibroids in women with chronic pelvic pain syndrome. Echography of pelvic organs in 3D and color dopplerography were performed on 84 patients with uterine myoma. When examining patients with uterine myoma, special attention was paid to determining the topography of the pelvic organs, the location of myomatous nodes and their blood supply, and also assessed the state of the uterus. It has been shown that high-resolution 3D-echography in color doppler mode can provide some help to clinicians in establishing the causes of pelvic pain syndrome in patients with uterine myoma. During the study, the following typical ultrasound signs of proliferating uterine fibrobuses were distinguished: heterogeneous tumor structure, increased echogenicity, hyperechogenic inclusions, anechogenic cavities of various sizes and forms. To evaluate peripheral hemodynamics in patients with uterine myoma and the degree of vascularization of myomatous nodes, a dopplerometric study and color Doppler mapping were used. Color Doppler mapping and dopplerometry were carried out in the right and left uterine arteries, in the radial arteries, in the peripheral arteries that feed myoma, as well as in the central, intra-tumor vessels.

Key words: uterine myoma, pelvic pain, ultrasound, color dopplerography.

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FACIAL VASCULAR LESIONS IN PATIENTS WITH PTERYGOPALATINE GANGLIONITIS

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The paper presents the findings of the study of facial vascular lesions in patients with pterygopalatine ganglionitis (PPG) depending of the degree of its severity. It has been proved that no facial thermoactivity occurs in the minor PPG; thermoasymmetry has been revealed in 85,7% of patients with the moderate pterygopalatine ganglionitis due to increase of thermoactivity of the face on the average of 0,5°C. The marked thermoasymmetry of the face (0,8°C) has been noted in all patients with the severe pterygopalatine ganglionitis. Notably, if in the moderate PPG we observed the rise of temperature on the affected side. Facial vascularization has been also found. They were insignificant in the minor pterygopalatine ganglionitis. The decrease of the vascular tone and increased blood supply to the vessels of the face has been revealed in the moderate pterygopalatine ganglionitis. On the contrary, in the severe pterygopalatine ganglionitis the increased tone and decreased blood filling of the facial vessels has been detected on the affected side. Such vascular lesions are accompanied by the corresponding clinical picture of the ganglionitis and vegetative manifestations.

Key words: pterygopalatine ganglionitis, thermovisiography, rheofaciography, facial vascular lesions.

The research was a fragment of RSW "Integrative and differentiated substantiation of the choice of optimal methods of surgical interventions and scope of treatment in surgical pathology of the maxillofacial area", the State registration number 0116U003821.

Pain syndromes of the maxillofacial area, especially prosopalgia, are the common reason for visiting the dentist. The difficulty and incomplete etiology of neurogenic and psychological processes that produce pain, as well as their subjectivity, often leads to erroneous diagnosis, which in turn hinders or even nullifies the effectiveness of treatment [2]. One of the common causes of the onset of prosopalgia is the affection of vegetative ganglia of the head, and pterygopalatine ganglionitis (PPG) takes the leading place among them.

Statistically, the number of patients with lesions of vegetative ganglia of the head, admitted to the neurodental unit, accounted for 48,71% [3]. Pterygopalatine ganglionitis occurs most often among other ganglionitises [5], and its diverse clinical manifestations hamper the diagnosis, made by both dentists and neurologists. The clinical picture of pterygopalatine ganglionitis along with pain syndrome usually shows vegetative reactions that appear in the form of hyperemia of the skin, lacrimation, salivation and rhinorrhea. Generally, the vegetative-vascular disorders, specific for the pterygopalatine ganglionitis, are accompanied by the vasodilatation and hyperthermia of the skin on the affected side.

Research purpose - the study of facial vascular lesions in patients with pterygopalatine ganglionitis.

Materials and methods. 56 patients with pterygopalatine ganglionitis have been examined and assigned into groups according to the degree of severity [6]. Minor pterygopalatine ganglionitis was characterized by the localized pain with low intensity (VAS 4-5 points [1]) which lasted for 30 minutes with frequency of fits of 1-3 times a day. Pain of 5-7 points occurred in moderate pterygopalatine ganglionitis, lasting for 30 minutes to 1-2 hours with frequency of paroxysms of 4-5 times a day, which spread over the half of the face. Severe pterygopalatine ganglionitis was characterized by the intense pain of 8-10 points, lasting for 2 hours and more with frequency of fits of 4 to 6-10 times, which spread over the half of the face, irradiating to the neck, shoulder and scapula.

Thermovisiography has been used for objective evaluation of the degree of the vascular lesions. Data have been recorded in the intermission period. The diagnostics has been made after 10-15 minute period of temperature adaptation with the use of both black-and-white and color monitoring with determination of isothermal zones, momentary absolute measuring of temperatures accurate to 0,1°C. Absolute temperature indices have been determined on the healthy and affected sides, and indices of the asymmetry have been calculated. Rheofaciographic study has been done from the area of bifurcation of the external temporal and maxillary arteries according to L.G.Yerohina's (1965) methodology. The recordings of rheograms have been reproduced with the standard speed of 30 mm/s, at the constant time of amplifies of 0,3 s and frequency filter of 200 Hz. Pads wetted in isotonic saline have been used for the better contact between the patient's skin and electrode. The skin was degreased by 70° ethanol. The descriptive characteristic of rheographic curves, as well as qualitative analysis and calculation of their quantitative indices have been made. The rheographic curves obtained during the recording of the vessels of the "healthy" and affected side and in control group have been compared during the analysis of the findings. The number and characteristic of the studies depending on the degree of severity is presented in Table 1.

Table 1

The number and characteristic of the studies depending on the degree of pterygopalatine ganglionitis severity

Type of the study	The degree of pterygopalatine ganglionitis severity			Control	Total number of studies
	minor	moderate	severe		
Thermometry	16	21	19	10	66
Rheofaciography	8	8	8	8	32

The resulting data have been processed by the variation-and-statistical analysis [4]. The reliability of differences have been assessed by the Student's t-test and was considered reliable in $p<0,05$.

Results and discussion. No significant changes in thermoassymetry have been found in patients with minor pterygopalatine ganglionitis in the intermission period (Table 2).

Table 2

Resulting data of the thermometry of patients with minor PPG and the controls (M±m)

Number of observations	Absolute temperature indices (degrees, Celsius)		Thermoassymetry
	Healthy side	Affected side	
Patients (n=16)	32,24±0,25	32,39±0,18	0,15±0,05
Control (n=10)	32,25±0,18		0,14±0,04

The analysis of the rheofaciographic curves of 8 patients has shown a steep rise and average amplitude of rheowaves that are specific for normal rheofaciogram. However, rheofaciogram of 5 patients revealed the additional waves, indicating about a vascular tone decrease. On the affected side the shapes of the peaks of rheowaves of 3 patients were slightly sharpened as compared to controls that could be a secondary sign of vascular tone reduce. In 4 cases the waves that preceded the anacrotism have been recorded on the affected side, indicating about the obstructed venous outflow from the investigated vessels. The thermovisiography of patients with moderate pterygopalatine ganglionitis has revealed asymmetry due to increase of the facial thermoactivity in 18 (85,7%) out of 21 examined people (Table 3). Thermoasymmetry indices of patients with PPG were 3,7 times higher than in controls.

Table 3

Resulting data of the thermometry of patients with moderate PPG and the controls (M±m)

Number of observations	Absolute temperature indices (degrees, Celsius)		Thermoassymetry
	Healthy side	Affected side	
Patients (n=21)	32,27±0,21	32,79±0,19*#	0,52±0,07*
Control (n=10)	32,25±0,18		0,14±0,04

Notes: 1. * – reliability of difference between the indices of patients and controls (p<0,05); 2. # – reliability of difference between the indices on the healthy and affected sides (p<0,05).

The resulting rheofaciographic curves of all patients showed a steep rise of the anacrotic wave, which is specific for normal rheofaciogram. However, the average amplitude of the rheographic wave has been reveled in 5 patients and high-amplitude waves have been revealed in 3 patients, indicating about the decrease of the vascular tone. At the same time the peaks of rheowaves were sharpened in 7 patients that could be a secondary sign of vascular tone reduce. The catacrotic portion of the rheowave of 6 patients has presented additional waves, indicating about the decrease in vascular tone. In 5 cases the waves that preceded the anacrotism have been recorded, indicating about the obstructed venous outflow. Examination of patients with severe pterygopalatine ganglionitis has shown that the indices of thermovisiography significantly differed from the indices of controls, and the gradient of asymmetry in patients with PPG was 5,7 times higher than the similar gradient of almost healthy people (Table 4). Notably, if in the moderate PPG we observed the rise of temperature on the affected side, then the severe pterygopalatine ganglionitis, on the contrary, was accompanied by the decrease of temperature indices on the affected side.

Table 4

Resulting data of the thermometry of patients with the severe PPG and the controls (M±m)

Number of observations	Absolute temperature indices (degrees, Celsius)		Thermoassymetry
	Healthy side	Affected side	
Patients (n=19)	32,28±0,11	31,48±0,13*#	0,8±0,05*
Control (n=10)	32,25±0,18		0,14±0,04

Notes: 1. * – reliability of difference between the indices of patients and controls (p<0,05); 2. # – reliability of difference between the indices on the healthy and affected sides (p<0,05).

Rheofaciography has been made in 8 patients. The rheofaciograms of 7 patients showed flat rheowaves on the affected side. Notably, the amplitude of the waves was low in all patients. Round peaks of the rheographic waves against the background of flattened curves have been recorded in 7 patients. The changes indicate about the increase of vascular tone and reduction of the blood flow on the affected side in the examined patients.

Conclusions

1. To sum it up it should be noted that no facial thermoactivity has been noted in the minor PPG; thermoasymmetry has been revealed in 85,7% of patients with the moderate pterygopalatine ganglionitis due to increase of thermoactivity of the face on the average of 0,5°C. The marked thermoasymmetry of the face (0,8°C) has been noted in all patients with the severe pterygopalatine ganglionitis.
2. Various changes of the face vascularizarion were notable. They were insignificant in the minor pterygopalatine ganglionitis. The decrease of the vascular tone and increased blood supply to the vessels of the face has been revealed in the moderate pterygopalatine ganglionitis. On the contrary, in the severe pterygopalatine ganglionitis the increased tone and decreased blood filling of the facial vessels has been detected on the affected side. Such vascular lesions are accompanied by the corresponding clinical picture of the ganglionitis: in the minor pterygopalatine ganglionitis insignificant vegetative reactions occur only during the fit. The moderate pterygopalatine ganglionitis is characterized by the marked vegetative reactions, accompanied by redness of the skin of the face and conjunctiva, lacrimation, salivation, rhinorrhea and edema of soft tissues. Dryness and hypoatrophy of the nasal mucosa, xerostomia and xerophthalmia is specific for the severe pterygopalatine ganglionitis, indicating about the loss of functions of the ganglion.

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Реферати

СУДИННІ ЗМІНИ ОБЛИЧЧЯ У ХВОРИХ НА КРИЛОПІДНЕБІННИЙ ГІНГЛІОНІТ

Колісник І. А., Коротич Н. М., Панькевич А. І., Гоголь А .М., Доброскок В. О.

У роботі представлені результати вивчення судинних змін обличчя у хворих на крилопіднебінний гангліоніт у залежності від ступеню його тяжкості. Доведено, що при легкому ступені тяжкості КПГ зміни термоактивності обличчя відсутні, при середньому у 85,7% пацієнтів виявлено наявність термоасиметрії за рахунок підвищення термоактивності обличчя в середньому на 0,5°С. При тяжкому ступені тяжкості в усіх хворих спостерігалась виражена термоасиметрія обличчя (0,8°С). При чому, якщо при середньому ступені тяжкості КПГ ми спостерігали підвищення температури на боці ураження, то тяжкий перебіг гангліоніту, навпаки, супроводжувався зниженням температурних показників на боці ураження. Також виявлені зміни у васкуляризації обличчя. При легкому ступені тяжкості вони були незначні. При середньому – виявлено зниження судинного тонусу та збільшення притоку крові до судин обличчя, а при тяжкому, навпаки, – збільшення тонусу та зниження кровонаповнення судин обличчя на боці ураження. Такі зміни васкуляризації супроводжуються відповідною клінічною картиною гангліоніту та вегетативними проявами.

Ключові слова: крилопіднебінний гангліоніт, термовізіографія, реофаціографія, судинні зміни обличчя.

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Сосудистые изменения лица у больных крылонебным ганглионитом

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В работе представлены результаты изучения сосудистых изменений лица у больных крылонебным ганглионитом (КНГ) в зависимости от степени его тяжести. Доказано, что при легкой степени тяжести КНГ изменения термоактивности лица отсутствуют, при средней у 85,7% пациентов обнаружена термоасимметрия за счет повышения термоактивности лица в среднем на 0,5°С. При тяжелой степени тяжести у всех больных наблюдалась выраженная термоасимметрия лица (0,8°С). При этом, если при средней степени тяжести КНГ мы наблюдали повышение температуры на стороне поражения, то тяжелое течение ганглионита, наоборот, сопровождается снижением температурных показателей на стороне поражения. Также обнаружены изменения васкуляризации лица. При легкой степени тяжести они были незначительные. При средней – наблюдалось снижение сосудистого тонуса и увеличение притока крови к сосудам лица, а при тяжелом, наоборот, – увеличение тонуса и снижение кровенаполнения сосудов лица на стороне поражения. Такие изменения васкуляризации сопровождаются соответствующей клинической картиной ганглионита и вегетативными проявлениями.

Ключевые слова: крылонебный ганглионит, термовизиография, реофациография, сосудистые изменения лица.

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NEW ASPECTS OF SEDIMENTATIONAL DETERMINATION OF MASTICATORY EFFICIENCY

Based on the consideration of actual masticatory eficiency as one of the key criteria of dental rehabilitation success the authors of the given article aimed at the development of their own masticatory test procedure which features the determination of the indicators of agar chopping and grinding. The experimental group comprised 95 volunteers whose task was to chop the offered patterns with the help of 10 masticatory movements in the free mode. Volunteers were involved into research on the basis of such criteria as intact dentitions and physiological occlusion. Their chopped fragments were collected and 95 digital images were acquired to be analysed with the help of specifically developed by authors plugin for the software ImageJ. The prospects of the further studies the authors see in the uses of the received results to determine the conditional norm and compare it with the indices acquired from the patients of different groups with malocclusion. The other application of these findings is possible assessment of the dynamics and results of orthopedic rehabilitation.

Key words: chewing, masticatory efficiency, masticatory test patterns, index of chewing efficiency.

Masticatory efficiency is one of the most important criteria of patients' orthopedic rehabilitation. [1, 3, 4, 6, 8] Modern dentistry has several tools to evaluate the quality of food chopping and grinding. Most of them is based on the evaluation of the quality of masticatory test grinding, i.e. measuring particular dimensional fractions [2, 5, 7].

Research purpouse - at the obtaining masticatory test results and measuring their main parameters of grinding in the group of young people.

Material and methods. This research has been conducted in the scientific laboratory of the Department of Orthopedic Propedeutics of Higher Educational Institutuon of Ukraine "Ukrainian Medical Stomatological Academy", Poltava, Ukraine. Experimental group involved 95 volunteers aged from 18 to 22