

NOS в наиболее функционально значимых структурах большинства (60%) плацент женщин с длительным гормональным сопровождением при индуцированной беременности свидетельствует о недостаточности компенсаторной реакции, эндотелиальную дисфункцию, нарушение процессов макро- и микроциркуляции, и как результат - о снижении функциональных возможностей плаценты.

Ключевые слова: вспомогательные репродуктивные технологии, плацента, нитрооксидсинтаза, эндотелиальная дисфункция

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disorders. The absence or downregulation of e-NOS at the most functionally important structures, the majority (60%) placentas of women with long-term hormonal support during pregnancy induced demonstrates the lack of compensatory responses, endothelial dysfunction, disturbance of macro- and microcirculation, and as a result - a reduction of functionality placenta.

Key words: assisted reproductive technologies, placenta, nitrooxydsyntaza, endothelial dysfunction.

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ETIO-PATHOGENETIC FORMS OF STOMATOGENIC MAXILLARY SYNUSITIS

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Comparative analysis of the results of ultrasound examination of maxillary sinuses of patients with various etiopathogenetic forms of stomatogenic maxillary sinusitis. We used digital data which we obtained in studies of the frequency of occurrence of various ultrasound criteria of the maxillary sinus of the 86 patients of etio-pathogenetic groups of stomatogenic maxillary sinusitis for statistical calculations. The maximum variation in the thickness of the Schneider's membrane in groups of patients with sinusitis of iatrogenic etiology was observed in medicamentous (drug) and infectious-allergic forms: respectively – in groups where, like in control group, prevails infectious component in the etiopathogenesis of the disease. Significantly lower from the above data were indicators for traumatic and mixed forms of iatrogenic sinusitis respectively 26.0 % and 23.7 % ($p < 0.05$). The frequency of hypo-echogenic mucosa (exudation) was significantly lower in the group with a traumatic form of iatrogenic sinusitis (4.8 ± 4.6 % of cases), higher in the infectious-allergic form (26.6 ± 11.3 %). The iso-echogenic mucosa is the ultrasound index of the unchanged Schneider's membrane, significantly more often ($p < 0.05$) was found in the group with a medicamentous (drug) form of iatrogenic sinusitis (in 63.6 ± 14.5 % of cases), which is significantly higher ($p < 0.05$) than in the other study groups

Key words: iatrogenia, differential diagnosis, sonography of the maxillary sinuses, the maxillary sinusitis stomatogenic, iatrogenic sinusitis, ultrasound examination, differential diagnosis.

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The maxillary sinusitis amount 56.0 - 73.0 % of all inflammatory diseases of the paranasal sinuses [7]. The population of the world suffers from various forms of sinusitis from 5 to 15% cases [5]. The incidence of maxillary sinusitis increases annually by 1.5-2 %, over the last 10 years the it has increased 3 times [3]. Most of the stomatogenic maxillary sinusitis, which is diagnosed in recent years, is of iatrogenic origin [8]. The absence of a differentiated approach to the treatment of various forms of chronic maxillary sinusitis is one of the reasons for the high prevalence of this pathology [3].

We proposed an etio-pathogenetic classification to facilitate a detailed study of stomatogenic maxillary sinusitis [2] and conducted clinical, morphological, histochemical and two-dimensional ultrasound studies. The results of the study of the Schneider's membrane of patients with different etio-pathogenetic forms of stomatogenic maxillary sinusitis have been published in the literature.

In order to evaluate the differential diagnostic value of the proposed classification it is necessary to conduct a statistical analysis of the results which was obtained because statistics are the basis of evidence-based medicine [6].

The purpose of the study was to perform the comparative analysis of the maxillary sinuses ultrasound examination results in patients with various etiopathogenetic forms of stomatogenic maxillary sinusitis.

Materials and methods. We used digital data which we obtained in studies of the frequency of occurrence of various ultrasound criteria of the maxillary sinus of the 86 patients of etio-pathogenetic groups of stomatogenic maxillary sinusitis for statistical calculations [1]. Into the group of odontogenic form (control group) of stomatogenic maxillary sinusitis there were 18 (21.0 %) patients who had inflammation in the sinus developed from previously untreated teeth. Into the group of infectious-allergic form of iatrogenic maxillary sinusitis there were 15 (17.4 %) patients who had established a periapical infection of previously treated teeth in the sinus in the etiology of the disease; The group of the mixed form of iatrogenic maxillary sinusitis

included 21 (24.4 %) patients with a filling material or a fragment of the tooth root in the clearance of the sinus. 11 (12.8 %) patients (who had the maxillary sinusitis developed in the background of dental manipulations and the presence of concomitant chronic diseases accompanied by long reception of hormones, antibiotics or drugs) were included in the group of medicamentous (drug) form. In the group of traumatic form of iatrogenic maxillary sinusitis – 21 (24.4 %) patients with sinusitis that developed against surgical manipulations in the area of the alveolar process or the body of the upper jaw [2].

We used the Student-Fisher's method to estimate the absolute level of reliability of differences in the results obtained-a confidence level of at least 95%, which is generally accepted for biological and medical research ($p < 0.05$). We used the Pearson's method X^2 for comparison of relative values.

Results of the study and their discussion. In medicamentous (drug) (3.6 ± 0.5 mm, 33.9 %) and in odontogenic (3.7 ± 0.4 mm, 35.2 %) sinusitis (control) the difference in thickness of the Schneider's membrane on the anterior wall of the maxillary sinuses was significantly exceeding than the same index for traumatic (2.4 ± 0.8 mm, 26.0 %), mixed (2.4 ± 0.6 mm, 23.7 %) and infectious-allergic (2.5 ± 0.3 mm, 28.9 %) forms of a iatrogenic sinusitis's groups ($p < 0.05$). The maximum variation in the thickness of the Schneider's membrane in groups of patients with sinusitis of iatrogenic etiology was observed in medicamentous (drug) and infectious-allergic forms: respectively – in groups where, like in control group, prevails infectious component in the etiopathogenesis of the disease. Significantly lower from the above data were indicators for traumatic and mixed forms of iatrogenic sinusitis respectively 26.0 % and 23.7 % ($p < 0.05$).

Hyper-echogenic mucosa an ultrasound sign of purulent inflammation [4], was more often observed in infectious-allergic form (in 46.7 ± 12.8 % of cases). Reliability of differences in the frequency of hyper-echogenic of the mucosa was noted between the mixed form of iatrogenic sinusitis (38.0 ± 10.6 %) and medicamentous (drug) (9.0 ± 8.6 %) $p < 0.05$. In case of traumatic form it was to 23.8 ± 9.2 % of patients, in the control group it was to 27.8 ± 10.5 % (table 1).

Table 1

Echogenicity (qualitative changes) of the mucous membrane of the maxillary sinus

ultrasonic criterion of the mucous membrane		study groups of stomatogenically maxillary sinusitis				
		Odontogenic form (control group) n = 18	traumatic form of iatrogenic sinusitis n = 21	mixed form of iatrogenic sinusitis n = 21	infectious-allergic form of iatrogenic sinusitis n = 15	medicamentous (drug) form of iatrogenic sinusitis n=11
hyper-echogenicity	abs.	5	5	8	7	1
	P ± Sp	27.8±10.5	23.8 ± 9.2	38.0 ± 10.6	46.7 ± 12.8	9.0 ± 8.6
	p	p>0.05	p > 0.05	p ³ < 0.05	p > 0.05	p ³ < 0.05
hypo-echogenicity	abs.	3	1	5	4	2
	P ± Sp	16.7±8.5	4.8 ± 4.6	23.8 ± 9.2	26.6 ± 11.3	18.2 ± 11.6
	p	p ² <0.05	p ¹ <0.05 p ³ < 0.05 p ⁴ < 0.05 p ⁵ < 0,05	p ² < 0.05	p ² < 0.05	p ² < 0.05
iso-echogenicity	abs.	8	12	8	4	7
	P ± Sp	44.4±11.7	57.1 ± 10.8	38.0 ± 10.6	26.6 ± 11.3	63.6 ± 14.5
	p	p ⁵ <0.05	p ⁵ < 0.05	p ⁵ < 0.05	p ⁵ < 0.05	p ¹ < 0.05 p ² < 0.05 p ³ < 0.05 p ⁴ < 0.05
absence of mucosal visualization	abs.	2	3	-	-	1
	P ± Sp	11.1±7.4	14.3 ± 7.5	-	-	9.0 ± 8.6
	p	p>0.05	p > 0.05	-	-	p > 0.05

Note: abs. – absolute value of the difference in the indicator; % – percentage of all scans in the group; P – percentage of all scans in the group; S – error of percentage; p – the reliability of the difference in the mean values is, significant at ≤ 0.05 ; p¹ – the reliability of the difference when compared with the index of a group of odontogenic sinusitis; p² – reliability of the difference when compared with the index of a group of the traumatic sinusitis; p³ – reliability of the difference when compared with the index of a group of the mixed group; p⁴ – the reliability of the difference when compared with the index of the group of the infectious-allergic sinusitis; p⁵ – the reliability of the difference when compared with the index of the group of medicamentous (drug) sinusitis.

As can be seen from table 1, the frequency of hypo-echogenic mucosa (exudation) was significantly lower in the group with a traumatic form of iatrogenic sinusitis (4.8 ± 4.6 % of cases), higher in the infectious-allergic form (26.6 ± 11.3 %). The iso-echogenic mucosa is the ultrasound index of the unchanged Schneider's membrane, significantly more often ($p < 0.05$) was found in the group with a

medicamentous (drug) form of iatrogenic sinusitis (in 63.6 ± 14.5 % of cases), which is significantly higher ($p < 0.05$) than in the other study groups. Absence of ultrasound signs of inflammation, high frequency of ultrasound criteria of healthy mucous in the medicamentous (drug) form of iatrogenic sinusitis can be associated with the lack of an adequate immune response in patients of this group. In second place in the frequency of detecting the sign of a "healthy" sinus is the traumatic form of iatrogenic sinusitis (57.1 ± 10.8 %). The cases of no visualization of the mucosa were noted in the mixed and infectious-allergic forms of iatrogenic sinusitis (no significant differences were found, $p > 0.05$).

Absence of contents in the sinus and acoustic shadow in the control group (odontogenic sinusitis) was noted more often (72.2 ± 10.5 %) of the remaining groups (table 2). The reliability of differences ($p < 0.05$) was revealed only with the index of infectious-allergic group of iatrogenic sinusitis. The minimum value of "acoustic shadow", noted in the infectious-allergic – 6.7 ± 6.4 ($p < 0.05$). As can be seen from table 3, hyperechogenous content in the sinus lumen was noted in the majority of patients with a medicamentous (drug) form of iatrogenic maxillary sinusitis (72.7 ± 13.4 %), which was significantly higher than other groups. It is the hyperechogenous content that explains the thickening of the mucous membrane of the sinus in this group under the condition of low indicators of hyperechogenicity (sclerosis) of the mucosis and hypoechogenicity of the mucosis (exudation, effusion) (table 2).

Table 2

The contents of the maxillary sinuses according to sonography

The nature of the contents of the maxillary sinus		study groups of stomatogenically maxillary sinusitis				
		Odontogenic form (control group) n = 18	Traumatic form of iatrogenic sinusitis n = 21	Mixed form of iatrogenic sinusitis n = 21	infectious-allergic form of iatrogenic sinusitis n = 15	medicamentous (drug) form of iatrogenic sinusitis n=11
hyper echogenic content	abs.	1	8	7	9	8
	P±Sp	5.5±5.1	38.1 ± 10.5	33.3 ± 10.3	60.0 ± 12.6	72.7 ± 13.4
	p	p ² < 0.05 p ³ < 0.05 p ⁴ < 0.05 p ⁵ < 0.05	p ¹ < 0.05	p ¹ < 0.05 p ⁵ < 0.05	p ¹ < 0.05	p ¹ < 0.05 p ³ < 0.05
hypo echogenic content	abs.	1	-	1	1	-
	P±Sp	5.5±5.1	-	4.8 ± 4.6	6.7 ± 6.4	-
	p	p ² < 0.05 p ⁴ < 0.05	-	p ² < 0.05 p ⁴ < 0.05 p ⁵ < 0.05	p ² < 0.05 p ³ < 0.05	-
anechogenic content	abs.	-	2	3	4	-
	P±Sp	-	9.5 ± 6.3	14.3 ± 7.6	26.6 ± 11.3	-
	p	-	p ³ < 0.05 p ⁴ < 0.05 p ¹ < 0.05	P ² < 0.05 P ⁴ < 0.05 p ¹ < 0.05	P ³ < 0.05 p ⁴ < 0.05 p ¹ < 0.05	-
acoustic shadow	abs.	13	11	10	1	3
	P±Sp	72.2±10.5	52.4 ± 3.4	47.6 ± 10.9	6.7 ± 6.4	27.3 ± 13.4
	p	p ⁴ < 0.05	p ⁴ < 0.05	p ⁴ < 0.05	p ¹ > 0.05 p ² < 0.05 p ³ < 0.05	p > 0.05

Note: cf. table 1.

Hyperechogenic inclusions with odontogenic maxillary sinusitis (control) were observed only 5.5 ± 5.1 % (n = 1) cases, which is significantly less than this value in any of the major groups ($p < 0.05$).

Ultrasonic parameters of cystic changes (anechogenous inclusions) of the mucosa in the maxillary sinuses are significantly more frequent in infectious-allergic form - in 26.6 ± 11.3 % of cases ($p < 0.05$).

In the traumatic, mixed and infectious-allergic forms of iatrogenic sinusitis, a relatively uniform distribution of the frequency of occurrence of homogeneous and inhomogeneous echostuctures of the Schneider's membrane (table 3).

As can be seen from the table 4, with the medicamentous (drug) form of iatrogenic sinusitis, the number of sinuses with a non-uniform echostructure of the Schneider's membrane is marked - in 63.6 ± 14.5 % of patients - the index of purulent inflammation. In the odontogenic maxillary sinusitis, there were more cases with a uniform mucosal echostructure in 61.1 ± 11.4 % ($p > 0.05$), indicating a prevalence of serous inflammation.

The difference in the incidence of uniform and uneven thickening of the mucous membrane within the group was statistically significant in the group of traumatic iatrogenic sinusitis and in the group of mixed iatrogenic sinusitis (table 4).

Echostructure of the mucous membrane of the maxillary sinus

No	study groups of stomatogenically maxillary sinusitis		ultrasonic criterion of the mucous membrane		In all
			homogeneous ehostruktura	heterogeneous ehostruktura	
1.	odontogenic form (control group) (n = 18)	abs.	11	4	15
		P ± Sp	61.1±11.4	22.2±9.7	83.3 ± 8.7
		p	p > 0.05	p > 0.05	p > 0.05
2.	traumatic form of iatrogenic sinusitis (n = 21)	abs.	11	10	21
		P ± Sp	52.4 ± 3.4	47.6 ± 10.8	100.0
		p	p > 0.05	p > 0.05	p > 0.05
3.	mixed form of iatrogenic sinusitis (n = 21)	abs.	9	12	21
		P ± Sp	42.9 ± 12.7	57.1 ± 10.8	100.0
		p	p > 0.05	p > 0.05	p > 0.05
4.	infectious-allergic form of iatrogenic sinusitis (n = 15)	abs.	8	7	15
		P ± Sp	53.3 ± 12.8	46.7 ± 12.8	100.0
		p	p > 0.05	p > 0.05	p > 0.05
5.	medicamentous (drug) form of iatrogenic sinusitis (n = 11)	abs.	3	7	10
		P ± Sp	27.3 ± 13.4	63.6 ± 14.5	90.9 ± 8.6
		P	p > 0.05	p > 0.05	p > 0.05

Note: cf. table 1.

From table 4 it follows that when performing sonography of the maxillary sinuses, it is possible to give a qualitative assessment of the nature of thickening of the mucous membrane in the group with a traumatic form of iatrogenic sinusitis (42.9 ± 10.8 %), this was lower than in the other iatrogenic groups (p < 0.05). However, the value of this indicator in the control (odontogenic sinusitis) group was lower in 38.9 ± 11.4 % and significantly differed from the values in the groups with mixed (95.2 ± 4.7%), infectious - allergic (100.0 %) and medicamentous (81.8 ± 11.6 %) forms of iatrogenic sinusitis (p<0,05). Uniform thickening of the sinus mucosa - a sign of serous inflammation, was more often found in all the study groups than the sign of uneven thickening, in mixed form of iatrogenic maxillary sinusitis higher than the remaining groups (74.4 ± 11.2 %). This difference was significant (p < 0.05) with the control group (27.8 ± 10.5 %) and the traumatic iatrogenic sinusitis group (33.3 ± 10.3 %).

Table 4

Thickening of the mucous membrane of the maxillary sinus

No	study groups of stomatogenically maxillary sinusitis		ultrasonic criterion of the mucous membrane		In all
			uniform thickening	uneven thickening	
1.	odontogenic form (control group) (n = 18)	abs.	5	2	7
		P ± Sp	27.8 ± 10.5	11.1 ± 7.4	38.9 ± 11.4
		p	p ³ < 0.05	p ⁴ < 0.05	p ³ < 0.05 p ⁴ < 0.05 p ⁵ < 0.05
2.	traumatic form of iatrogenic sinusitis (n = 21)	abs.	7	2	9
		P ± Sp	33.3 ± 10.3	9.5 ± 4.7	42.9 ± 10.8
		p	p ³ < 0.05	p ⁴ < 0.05	p ³ < 0.05 p ⁴ < 0.05 p ⁵ < 0.05
3.	mixed form of iatrogenic sinusitis (n = 21)	abs.	15	5	20
		P ± Sp	74.4 ± 11.2	33.3 ± 12.1	95.2 ± 4.7
		p	p ¹ < 0.05 p ² < 0.05	p > 0.05	p ¹ < 0.05 p ² < 0.05
4.	infectious-allergic form of iatrogenic sinusitis (n = 15)	abs.	8	7	15
		P ± Sp	53.3 ± 12.8	46.7 ± 12.8	100.0
		p	p > 0.05	p ¹ < 0.05 p ² < 0.05	p ¹ < 0.05 p ² < 0.05
5.	medicamentous (drug) form of iatrogenic sinusitis (n = 11)	abs.	6	3	9
		P ± Sp	54.5 ± 15.0	27.3 ± 13.3	81.8 ± 11.6
		p	p > 0.05	p > 0.05	p ¹ < 0.05 p ² < 0.05

Note: cf. table 1.

Uneven thickening of the mucous membrane (a sign of purulent inflammation of the membrane) was more often observed in the infectious-allergic form of iatrogenic sinusitis ($46.7 \pm 12.8 \%$) - significantly more often (almost 4 times) than in the traumatic form of iatrogenic sinusitis ($9.5 \pm 4.7 \%$) and in the control group ($11.1 \pm 7.4 \%$), $p < 0.05$.

The highest relative number of patients which in sinuses were able to visualize the posterior wall of the maxillary sinus during sonography was noted in the group with infectious-allergic form of iatrogenic maxillary sinusitis - in $93.3 \pm 6.4 \%$ of cases. As is known, the visualization of the posterior wall is directly due to the presence of the liquid component. The cases of visualization of the posterior wall of the maxillary sinus in the control group ($38.9 \pm 11.4 \%$), in the traumatic ($47.6 \pm 10.8 \%$) and in the mixed ($52.4 \pm 10.8 \%$) forms of iatrogenic maxillary sinusitis were significantly ($p < 0.05$) is lower than in the infectious-allergic ($93.3 \pm 6.4 \%$) and medicamentous (drug) forms of iatrogenic sinusitis ($63.6 \pm 14.5 \%$).

Conclusions

The difference in the frequency of detection of the rectilinear and arched contour of the posterior wall of the maxillary sinus was expressed in all of the study groups, except for the infectious - allergic form of iatrogenic sinusitis. The rectilinear and arched contour of the posterior wall of the maxillary sinus was expressed almost the same in the infectious - allergic form of iatrogenic sinusitis- respectively in $40.0 \pm 12.6 \%$ and in $53.3 \pm 12.9 \%$ sinuses. The arched contour (arcuate shape) of the posterior wall of the sinus prevailed in groups with traumatic ($38.0 \pm 10.6 \%$) and mixed ($42.9 \pm 12.7 \%$) forms of iatrogenic sinusitis. The posterior wall of the maxillary sinus in the group of medicamentous (drug) form has a rectilinear shape in all 63.6 ± 14.5 per cents of cases of visualization, that significantly ($p < 0.05$) more data of groups with odontogenic ($11.1 \pm 7.4 \%$), traumatic ($9.5 \pm 4.7 \%$) and mixed ($9.5 \pm 4.7 \%$) forms of sinusitis. The arched contour of the posterior wall of the maxillary sinus of medicamentous (drug) form of iatrogenic sinusitis wasn't found to be significantly different from the control group. A comparative analysis of the results of a two-dimensional ultrasound study of the maxillary sinuses of patients with stomatogenic maxillary sinusitis confirmed that the nature of changes in the sinus depends on the etiopathogenetic form of this disease.

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Реферати

ЕТИО-ПАТОГЕНЕТИЧНІ ФОРМИ СТОМАТОГЕННОГО ВЕРХНЬОЩЕЛПНОГО СИНУСИТА

Варжапетян С. Д., Гулюк А.Г.

Для статистичних розрахунків ми використали цифрові дані, отримані нами в дослідженнях частоти виникнення різних ультразвукових критеріїв верхньощелепних пазух 86 пацієнтів етіо-патогенетичних груп стоматогенного верхньощелепного синуситу.

Максимальна зміна товщини мембрани Шнайдера у групах пацієнтів з синуситом ятрогенної етіології спостерігалась при медикаментозної та інфекційно-алергічної формах: відповідно - у групах, де, як і в контрольній групі, переважає інфекційний компонент в етіопатогенезу хвороби. Значно нижче, ніж зазначені

ЭТИО-ПАТОГЕНЕТИЧЕСКИЕ ФОРМЫ СТОМАТОГЕННОГО ВЕРХНЕЧЕЛЮСТНОГО СИНУСИТА

Варжапетян С. Д., Гулюк А.Г.

Для статистических расчетов мы использовали цифровые данные, полученные нами в исследованиях частоты возникновения различных ультразвуковых критериев верхнечелюстных пазух 86 пациентов этиопатогенетических групп стоматогенного верхнечелюстного синусита.

Максимальное изменение толщины мембраны Шнайдера в группах пациентов с синуситом ятрогенной этиологии наблюдалась в медикаментозной и инфекционно-аллергической формах: соответственно - в группах, где, как и в контрольной группе, преобладает инфекционный компонент в

вище дані, були показники при травматичної та змішаної формах ятрогенного синуситу 26,0% та 23,7%, відповідно ($p < 0,05$). Частота гіпозохогенної слизової оболонки (ексудация) була значно нижчою в групі з травматичною формою ятрогенного синуситу ($4,8 \pm 4,6\%$ випадків), вищою в інфекційно-алергічній формі ($26,6 \pm 11,3\%$). Ізохогенна слизова оболонка є ультразвуковим індексом незміненої мембрани Шнайдера, значно частіше ($p < 0,05$) була виявлена у групі з медикаментозною (лікарською) формою ятрогенного синуситу (у $63,6 \pm 14,5\%$ випадків), що є значно вище ($p < 0,05$), ніж у інших дослідницьких групах.

Ключові слова: ятрогенія, стоматогенна ятрогенія, ятрогенний верхньощелепний синусит, систематизація ятрогенії, ультразвукове дослідження, диференційна діагностика.

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этиопатогенезе болезни. Значительно ниже, чем указанные выше данные были показатели травматических и смешанных форм ятрогенного синусита: 26,0 % и 23,7 %, соответственно ($p < 0,05$). Частота гипозохогенной слизистой оболочки (экссудация) была значительно ниже в группе с травматической формой ятрогенного синусита ($4,8 \pm 4,6\%$ случаев), выше в инфекционно-аллергической форме ($26,6 \pm 11,3\%$). Изохогенная слизистая оболочка значительно чаще ($p < 0,05$) была обнаружена в группе медикаментозной (лекарственной) формы ятрогенного синусита (в $63,6 \pm 14,5\%$ случаев), что значительно выше ($p < 0,05$), чем в других исследовательских группах.

Ключевые слова: ятрогенія, стоматогенний ятрогенія, ятрогенний верхньочелюстний синусит, систематизація ятрогенії, ультразвукове дослідження, диференціальна діагностика.

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DENTISTS VIEW ON FETAL MACROSOMIA

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The article is devoted to the study of the dental status features, including the terms of the deciduous tooth eruption, in the children of Kharkiv population (Kharkiv city, Ukraine) who were born with macrosomia, taking into account accelerated intrauterine growth, intrauterine obesity or balanced intrauterine growth acceleration and the body weight gain. Dental status analysis in newborns and infants born with macrosomia (Main group) and normosomia (Reference group) was carried out. The total of 173 children (102 boys and 71 girls) born in 2014-2017 were examined. It was shown that dental disorders were found in the both groups at birth - in 53.8% of newborns in the macrosomic group and in 24.6% of newborns in the group of normosomes. Abnormalities of soft tissues were associated with fetal macrosomia. In the macrosomic group, in children with the balanced intrauterine increase in body weight and body length, the process of deciduous tooth eruption was more harmonious. Delayed terms of deciduous tooth eruption were observed in children born with macrosomia with enlarged intrauterine body length and relatively low body weight. Children born with macrosomia and intrauterine obesity and girls with intrauterine acceleration in combination with obesity tend to premature tooth eruption. Macrosomic children with large intrauterine body length and a relatively low body weight demonstrated the highest percentage of the violation in tooth eruption sequence and the highest percentage of the bilateral asymmetry.

Key words: fetal macrosomia, infancy, terms of deciduous tooth eruption, oral cavity.

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At present, the hypothesis of fetal programming of the child's health has become a paradigm [8]. The intrauterine programming of the craniofacial complex status is not an exception [7]. On the background of a general increase in the average body weight among the population of economically developed countries, the number of children born with macrosomia is growing [4]. Fetal macrosomia is determined when the weight of the infant at birth is greater than or equal to 4.000 g [12].

In different years, several modifications of classification for macrosomic newborns were suggested. One commonly used is a classification based on the harmonious coefficient of the child's intrauterine development. Studies of immediate and long-term macrosomia consequences that affect an infant's health have a long history [14, 15]. The presence of features in the dental status in children born macrosomic was also confirmed by our own researches [6, 7]. There is a small number of works by foreign scholars devoted to the association of fetal macrosomia and dental disorders in ontogenesis. Almost all of them relate to the problem of caries in children and adolescents [9, 10]. Information available in the literature on the dental status in the first year life infants born with macrosomia, particularly, about the tooth eruption terms, is quite limited and contradictory.

Due to the multi-aspect nature of factors influencing the tooth eruption processes [3, 16], deviations from the generally accepted norms of deciduous and permanent tooth eruption, both the premature and the delayed eruption deviations, is not uncommon. The scientific literature distinguishes between biological and chronological delay of tooth eruption. The biological delay of tooth eruption is fixed when the eruption did not occur in the presence of 2/3 or more of the formed tooth root. The degree of the tooth root system