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STATE OF CONNECTIVE TISSUE ELEMENTS OF THE DENTAL-MAXILLARY SYSTEM IN CHILDREN WITH DIFFUSE NONTOXIC GOITER

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The dental-maxillary human system consists of the tissues, the majority of which is a kind of the connective tissue. The osseous alveolus, periodontium, gums, pulp, and dentine – all of them contain the main structure-forming elements as fibers and extracellular matrix. The latter one is presented by proteoglycans, heterogeneous proteins covalently bound with glycosaminoglycans playing a crucial role in biochemistry of the connective tissue. Changes of the connective tissue in case of pronounced functional disorders of the thyroid gland are described in endocrinology.

Materials and methods. 60 children suffering from diffuse nontoxic goiter and 60 somatically healthy children aged from 12 to 15 years were examined. The following biochemical indices were determined in the oral fluid of children: crude protein level by O.H. Lowry's method; glycoproteins level by E.G. Romanenko's method; glycosaminoglycans level and their fractions by E.V. Kariakina's method. The results obtained were statistically processed applying variation statistics methods.

Results. The results of the study showed that in children under conditions of diffuse nontoxic goiter general glycosaminoglycans level in the oral cavity is reliably higher than that of the somatically healthy children. Particularly, in case of clinically intact periodontium the difference between the indices was found to be approximately twice as much: IA group – $(0,16 \pm 0,01)$ g/L, IIA – $(0,31 \pm 0,03)$ g/L ($p < 0,05$). In children suffering from CCG a reliable difference between the indices was found as well: IB group – $(0,22 \pm 0,02)$ g/L, IIB – $(0,38 \pm 0,01)$ g/L ($p < 0,05$).

In glycosaminoglycans structure in children from all the groups of observation the fraction of sulfated glycosaminoglycans (SGAG) prevailed. The variants of it are the following compounds: chondroitin-4-sulfate, chondroitin-6-sulfate, dermatin-sulfate, and heparin-sulfate. Due to a high negative charge they bind water well and thus regulate water-salt metabolism in tissues. Increased amount of SGAG is a characteristic feature of such typical pathological process as inflammation, since they take part in the formation of tissue swelling.

Conclusions. The applied biochemical methods of investigation enable to assess the state of the connective tissue components of the dental-maxillary system under different conditions and determine a risk group of children who do not possess clinical changes in the periodontal tissues, but could reliably have them in future.

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SHAPE RECONSTRUCTION OF THE MOLAR CROWNS OF THE UPPER AND LOWER JAWS IN MALES AND FEMALES

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Introduction. Dental crowns and teeth row defects orthopedic treatment is accompanied by the necessity of reconstruction of lost morphological teeth parts or the missing teeth in teeth row. That is the reason why rational orthopedic treatment (including anatomic tooth shape reconstruction and preservation of aesthetic) is an important assignment in prosthodontics.

The aim. To study odontological and odontometrical parameters of molar crowns of the upper and lower jaws in males and females.

Materials and methods. We used odontoglyphical, odontometrical and statistical methods of researches to achieve the desired results. The occlusal surface of molars (of male and female respectively) was a material for study. We conducted clinical studies of 250 persons. During this study, assessment of odontological status according to odontoglyphic pattern of occlusion surface of molars was held. The odontometric analyze took place on intact molars with the well-expressed anatomical pattern of crowns according to the O. Zubov and N. I. Khaldeyeva's methodology.

Results. The average values of the main indicators for the crown were established according to the odontometrical analyze.

The following indicators have been ascertained: the height of the crown varies from 6,67 to 6,81 mm (male) and 5,89 to 5,94 mm (female), the vestibule-lingual size is 11,4 mm (male) and 10,7 mm (female), the size value of the mesio-distal crown size is 10,4 mm and 10,24 mm, for male and female respectively.

Chewing surface of the first molar on the upper jaw is formed by four tubers, which form igrek-four type of odontoglyphic pattern. As a result of odontoglyphic study, we have found that for all molars of the upper jaw and the first molar of the mandible, the presence of a continuous distal crest of the trigon, which forms the igrek-type odontoglyphic pattern, is considered to be an archaic sign. The works of the number of authors prove this statement. Cases of the distal crest lowering in the center of the crown were observed frequently. The highest part of the crest is an edge that connects the epi- and the diaconus. Two options of the distal crest of trigon formation were established during our study. In the first case, it was formed due to the merger of the distal crests of the

epiconus and the diaconus. In the second case, it was formed by the connection of the distal crest of the epiconus and the central crest of the diaconus. There is an additional cusp of Carabelli on the boundary between the lingual and medial surfaces of the crown on the upper molars on the lateral surface of the eoconus. During the study, it was found that this formation can vary considerably according to the degree of its development. In this case, the crown may change its shape due to the increase of the vestibule-palatine crown size. In the least developed form, it is represented by an insignificant enamel swelling, separated by one or two grooves. With a more pronounced form, this formation has a distinct apex, which is from the surface of the eoconus by the arc-shaped groove. The strongly pronounced cusp of Carabelli almost reaches the height of the chewing surface and corresponds to the size of the main tubers on the chewing surface. It should be noted, that the presence of the cusp of Carabelli was observed on the upper molars of males. Moreover, we have noted the cusp of Carabelli on the first and second molars of the upper jaw in some cases.

We have noted that the cusp of Carabelli is almost invisible on the upper molars of females. This fact is due to the predominance of reduction processes in female teeth. At the same time, the simplicity of the crown structure is due to the reduction of the mesio-distal diameter of the crowns that belong to the group of teeth under consideration in relation to the vestibule-palatine diameter through the reduction of the palatal-distal tuberculum.

Conclusions. As a result of the study, the main odontometric and odontoglyphic characteristics of the chewing surface structure of male and female first molars were determined. We consider it expedient to take into account the above characteristics of the chewing surface of molars of the upper and lower jaws of male and female for the creation of qualitative orthopedic constructions that would fully restore the masticatory function.

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THE LEVEL OF PHYSICAL PAIN IN STROKE PATIENTS BEFORE AND AFTER PROSTHETICS WITH PARTIAL REMOVABLE PROSTHESES

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It is known that the consequences of a stroke are disruption of the neuromuscular system, including in the maxillofacial region. Motor and sensory disorders are noted on the side opposite to the lesion. With partial adentia in this category of patients, there may be a failure in the coordinated work of the right and left sides of the muscular apparatus of the maxillofacial region. In turn, attention is drawn to the presence of physical pain when chewing, since the presence of defects in the dentition not only makes it impossible to fully chew, causes discomfort, but also contributes to the appearance of pain. Given the general somatic pathology, the degree of physical pain differs from that in somatically healthy patients.

Purpose. To analyze the level of physical pain in patients with acute cerebrovascular accident before and after orthopedic treatment and compare with the same indicator in patients without general somatic pathology.

Materials and methods. The study involved 25 people with complicated course of stroke with neurological deficit by hemitype, who made up the study group, and 20 people without somatic pathology - a comparison group, aged 40 to 65 years. According to clinical indications, all patients received partial removable plate prostheses with an acrylic base and containing bent metal clasps. The index of physical pain was determined before and after orthopedic treatment by questioning patients with the OHIP-49 questionnaire.

Results. The degree of physical pain in patients with complicated course of acute cerebrovascular accident according by hemitype before the start of orthopedic treatment was 27.7 points, and on the 30th day after prosthetics with partial removable plate prostheses, this indicator improved to the level of 15.07 points.

When comparing this indicator with the group of patients without somatic pathology, this indicator was 23.92 points before treatment and decreased to 12.04 points 30 days after the application of the orthopedic structure.

The level of physical pain significantly decreased in both groups, but in patients with complicated course of acute cerebrovascular accident according by hemitype, it was 3.03 points worse when comparing the value with the comparison group.

Conclusions. Complete replacement of dentition defects reduces the degree of physical pain when chewing, but the presence of a serious general somatic pathology significantly affects this indicator, which is confirmed by the research data.