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FEATURES ELEMENTS OF THE TOOTH – JAW SYSTEM AT DIFFERENT AGES

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Summary : Tooth – jaw system – a complex hierarchical functional system, which combines functional subsystems such as the temporo – mandibular joint, jaw, periodontal, teeth, muscles and salivary glands. Tooth – jaw system, its individual subsystems and bodies are responsible for chewing, respiratory functions, as well as swallowing and speaking.

Key words : tooth – jaw system, temporo – mandibular joint, children, age periods.

Tooth – jaw system – a complex hierarchical functional system, which combines functional subsystems such as the temporo – mandibular joint, jaw, periodontal, teeth, muscles and salivary glands. Tooth – jaw system, its individual subsystems and bodies are responsible for chewing, respiratory functions, as well as swallowing and speaking.

Components of the tooth – jaw system: 1) solid footing – the bones of facial skeleton and temporal – mandibular joint. 2) chewing muscles. 3) The authorities intended

to create, and promote the formation of food bolus, prepare it for swallowing, and bodies responsible for broadcasting and of sound – lips, cheeks, palate, teeth and tongue. 4) Organes for grinding food - teeth. 5) Organes for wet food processing and its fermentation – the salivary glands of the mouth.

Each age period has a number of features.

Among infants brain skull prevails over facial. Reducing of the height of the middle and lower parts of the face is caused by the fact that their height is fixed only on the predeciduous dentitions.

The upper jaw is short and wide, consists of two symmetrical halves, which are combined by the longitudinal seam.

Palate is flat, with 4 – 5 pairs of distinct transverse folds.

The lower jaw is smaller in size than the upper, consists of two halves of nonunion, which are connected by connective tissue. The angle of the mandible 135 – 140° mandibular branch has occipital slope.

Chin sloping back, which causes a physiological condition retromandibulism kids. These creations promote breastfeeding.

For topographical location of both jaws are part of the skull and facial masticatory apparatus involved in food intake, bolus formation, of sound and performance of lung function. Both jaws are similar in structure and each of them depending on age consists of two arcs, and alveolar basement – in infants and three arches: basal, alveolar and dental – in older children. They have the same number of teeth and the alveoli (each jaw contains 18 dental germs – 10 deciduous teeth and permanent teeth germs 6 (1,2,3,6 teeth).

Development of the chewing muscles is weak, as it has not yet started to function, various tubercle gingivals, ridges and lines

are mild. However, with the advent of sucking function muscle differentiated. The act of sucking is accompanied by the nomination lower jaw forward and its next shift in the distal direction, due to which there is regular training lateral of the pterygoid muscle.

Cheek – is an anatomical formation, which forms the side surface of the face, and is the outer wall of the mouth, it consists of skin, muscle and plum layers. In the interior of the cheeks fat pads are located – sucking pad. Interlayer fat cheeks is an independent multicellular body contained in its own capsule. This formation provides a negative pressure in the mouth during sucking.

Lips – a skin – muscle folds that limit entry into the mouth. The lips of the newborn are swollen, similar to the trunk, cross striped (Pfaundlera rollers – Lyushka) with sucking pad on the upper lip, thereby this formation the child tightly covers the nipple. The upper lip prevails over the lower forming step Province.

Gingival membrane – specific formation that is duplication mucosa comb – shaped in the frontal area of the upper and lower jaws (plica Robin – Mazhyto). It is rich in small papillary bumps, blood vessels, has a large number of elastic fibers.

Structural features of the temporo – mandibular joint in newborns: the head of the articular process has nearly round shape. Fossa is flat, no articular tubercle before, but there is a pronounced articular cone behind, limiting the movements of the lower jaw to the side of the middle ear. Articular soft disk consists of collagen fibers, no nap synovial membrane of the joint capsule. These features are caused by sucking process, characterized by a predominance of motion in the sagittal plane.

The tongue is large in size.

Mostly infantile type of swallowing, which is characterized by laying tongue between the alveolar bone and rejection of the closed lips.

Also for combining the processes of breathing, sucking and swallowing in infants is available high location of the entrance to the larynx.

Due to the growth and development of the child, a tooth – jaw apparatus changes, new functions appear or develops the restructuring of the existing ones.

During 6 – 7 months of life of the baby there is active development of the alveolar bone, thick basal part of the lower jaw and its branch, the value decreases mandibular angle changes architectonic mandible. Develops even, consistent and timely eruption of the deciduous teeth.

Teeth – are part of a chewing – conversational system, which is a set of bodies involved in chewing, breathing, voice and speech formation.

Due to the main function teeth are divided into the following types:

- Cutters – the front teeth that are cut first among the children and are used to capture, nibble and cutting food;
- Fangs – conical teeth that serve to breaking and keeping food;
- Premolars (small indigenous) – designed for crushing, grinding food, and they can be used for tearing food. This group is characterized only for permanent teeth bite;
- Molars (large indigenous) – rear teeth that are used for grinding food often have three roots in the upper jaw and two – on the bottom [2].

Tooth - jaw system of a person is an example of differentiated heterodontic system (as

within certain groups of teeth there are present clear differences of individual teeth apart) difiodontic type (single teeth shift) with tecodontic placement of teeth (each tooth is placed in a separate cell jaw – alveolus) [1].

Due to the complexity of the function of the tooth – jaw apparatus (the act of sucking, teething of the temporary front teeth with the inclusion of the nibble act) shows the combined effect of the chewing muscles. In particular, the nomination of the lower jaw forward to the required level is lateral pterygoid muscle, and the bite is the result of the simultaneous reduction of the front edges of chewing, medial pterygoid and temporalis muscles.

Since, baby food range is expanding, then moves the lower jaw differentiate, burden on the land side of the jaws increases. Begin to dominate movements in the transversal plane.

At the age of 16 – 18 months under the influence of functional loads that occur during sucking and independent eating of the child and after the eruption of deciduous teeth the shape and structure of the temporo – mandibular joint changes. After the eruption of the first molars temporary sites is separate toothless jaws and physiological rise first bite. Articular tubercle increases articular fossa deepens. Articular disk as the deepening of the pit and mound growth, thin in the center and becomes biconcave shape. Articular cone atrophy. Due to mesial moving jaw function under physiological stress and increase bite, is moving head articular process to the front and slightly to the bottom. At this age, children articular surface covered with a thin and fragile connective cartilage.

The shape of the dental arches of the upper and lower jaws – semicircle on the

upper jaw larger radius. Palatum is concave, domed. The branch of the mandible takes a vertical position. Tongue occupies relatively smaller part of the area of the oral cavity, salivary glands produce saliva actively. Mostly somatic type of swallowing. Nasal breathing.

6 - 7 years after the eruption of the first permanent molars and due to the strong growth of the jaws, develops the second physiological occlusion and mesial displacement of the mandible. The articular head of the articular process continues to shift to the front, resulting in it is placed in the center of the articular fossa.

By this age, glenoid fossa has a clear, well-developed articular tubercle and the articular disc adopts biconcave shape. By the time of eruption of permanent teeth head articular process increases the transverse direction, takes the form of an ellipsoid and leans to the front.

The form of the face – proportional, with approximately equal top, middle and bottom.

As a result of the formation of permanent occlusion of upper jaw takes the form of half an ellipse, and the lower – parabola.

The muscular frame the face is developed, all the muscles are actively involved in chewing and facial expressions. Formed masaterial, temporal or mixed types of chewing.

Chewing movements are carried out in all directions: vertical, sagittal and transversal.

Thus, movements in the sagittal direction occur in humans due incongruence joint. The rear wall of the articular fossa, as a joint rodents not closely adjacent to the joint head and gives it the opportunity to make trips back and forth.

Joint rights occur as vertical movements that articulated. The implementation of these joint movements should be held along the lines ginglyms (must be ginglyforms). For normal and clear articulated movements necessary correspondence between the articular fossa and articular head. Meanwhile, the glenoid fossa in the temporo – mandibular joint of most human head. Reduction of the articular fossa contribute to such anatomical joint, rear bag attached to its end closer to the front wall Glaser gap; thus articular fossa is not all well, but its front (on the articular tubercle to Glaser gap). Reducing holes also helps drive filling of holes. Authenticity joint also increases due to cartilage that covers both surfaces, which articulate. Moreover biconcave disc-shaped fibrous layer and the back of the bag also contribute to the formation ginglyms. The disc, including the head of its rear surface, moving the joint turns into a hole in the articular head which makes articulated movements. These features and create favorable conditions for articulated movement.

As for transversal movements, for their implementation morphology of human

joints should resemble anatomical joint of herbivores. In herbivores, as said articular concave surface represents the head, and the temporal bone instead of holes, in concave surface is bulge. The joint rights, by contrast, has the concave surface of the temporal bone in a joint fossa and articular head man is a convex surface. But to create opportunities to make lateral movements there are the disk and articular tubercle. The disc, joining the joint head, turns it into a concave surface because of its biconcave form, and articular tubercle is convex surface on the temporal bone. In lateral movements that a person, unlike animals is one-sided, glenoid head on the side on which the muscles, comes with a disc with holes on the articular tubercle, slides on it forward, downward and inward, and thus there is lateral movement. Thus, the shape of the temporomandibular joint in humans because of anatomical structures – and drive tubercle – well suited for functional lateral movements.

These chewing movements and anatomical lesions allow to describe the temporo – mandibular joint as a pair, combined, double axial, incongruently [3].

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