

Morphometric Indicators of Jaw Diseases with High Jaw Prothrosis in Children

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Relevance of the study: Distal occlusion can manifest itself as a result of skeletal imbalance, a violation of the growth and development of the dentoalveolar complex, a Category II angle can occur due to macrogathia of the lower jaw, or can manifest as a combination of both, for example, with the prognathion of the upper jaw. normal position of the lower jaw, retrognathia of the lower jaw or micrognathia of the lower jaw with normal size of the upper jaw or lower retrognathia.

The clinical picture of morphological diseases of the facial skeleton, which characterize the distal occlusion of Class II, 1st Class, is diverse, since it is difficult to determine the most characteristic sign for this pathology. the position of the gnathic part of the facial skeleton can have a lot of changes.

The protrusion of the anterior incisor teeth, characteristic of the pathology under study, can be combined with the narrowing of the upper tooth cavity, less often with the compression of the teeth caused by the lower teeth, diastema and tremor.

At an angle, the characteristic facial features of subclass 1 Class II distal occlusion are considered convex faces. In such patients, the chin is bent back. The lower third of the face contracts, as a result of which the incisors of the upper jaw bend and come into contact with the lower lip, the forward movement of the upper lip and the teeth of the upper jaw appear.

The intra - oral signs of the pathology under study are the vestibular (shoulder-shaped) inclination of the upper front teeth (protrusion), which is often combined with the sagittal space between the incisor teeth of the upper jaw; narrowing of the upper jaw. it is observed very often in the lateral sections; when the teeth of the upper and lower jaws are closed, the deep incision sticks together.

Profilometry (lateral TRG analysis) and the study of lateral photos of the face of patients with distal occlusion of the 2nd grade, according to the angle, Grade 1: the upper lip crosses the "nasion" line, the chin is shifted back and is located behind. the "orbitale" line, the nose-lip angle with clear protrusion of the upper teeth, is usually acute. The angle of the upper lip line relative to the nasal perpendicular is greater than the normative value[1.3.5.7.9.11.13.15.17.19.21.23].

The severity of the pathology under study depends on the difference in the size of the apical base of the upper jaw to the lower jaw; in most cases, according to Engle, distal occlusion of Class II is combined with anomalies in the case of distal occlusion of subclass 1 . separate teeth can also be combined with a deep and open bite.

With Distal occlusion, functional disorders are manifested in the biting and grinding of food, breathing and impaired speech function. With this pathology, due to a decrease in chewing efficiency, the useful area of closing teeth is reduced, during the chewing process, the grinding and grinding movements of the lower jaw, the duration of the chewing period and the number of chewing movements prevail. on average, it increases by 30%, the more pronounced the anomaly, the more serious violations occur in the movement of the lower jaw and their asymmetry.

Speech dysfunctions appear, expressed in the ambiguous pronunciation of sounds caused by improper articulation of the language. In almost all patients with distal occlusion during swallowing, tension of the facial muscles, the corners of the mouth and the back of the lower lip are observed. Due to the misalignment of the tongue, the double contour of the chin is determined. The tongue does not protrude beyond the teeth, but beyond the lips and cheeks. The dysfunction that occurs in Distal occlusion largely depends on what other anomalies it is combined with, as well as the size and

topography of dental defects if they occur.

The presence of dental anomalies and deformities directly affects the cariogenic state, in orthodontic patients, dental caries increases the high level of microbial contamination of the oral cavity. This is caused by the accumulation of plaque in areas with abnormal tooth positions. Optimal conditions are created for the colonization and reproduction of the acid-forming microflora. This condition is relevant for all categories of patients, but especially unfavorable for children and adolescents, since at this age the enamel does not have sufficient acid resistance. The duration of orthodontic treatment and the use of stationary devices directly affect the deterioration of the cariogenic situation.

TMJ X-rays help determine the shape of its elements and their relationship. The study is especially relevant if the sagittal movement of the mandibula is necessary (after treatment, the mandibular heads should be located correctly in the joint joints), if they are located in a normal state, that is, deep in the pit, then orthodontic action is indicated. mandible not shown.

To identify muscle-articular dysfunctions and analyze tomo - and zonograms, it is necessary to carefully analyze the occlusion-articulation relationship and the condition of the temporomandibular joints. True, the authors note the need to study in detail the condition of the muscles and the "arthrogenic" situation before orthodontic treatment; according to his data, 80% of patients with an unfavorable condition of the joints have a distal condition. mandibular heads are found in typical occlusion. The author emphasizes the need to distinguish between normal and posterior occlusion (posterior contact position) , which is 0.5-2 mm, and if such a difference is not detected and pressure is applied to the joint distally during orthodontic treatment. , then the articular condyle shifts.

With the distal occlusion of Class II, Class 1, the lower jaw moves forward when biting and speaking food. The mandibular head shifts towards the articular tubercular slope, which can lead to joint dysfunction and overload.

After collecting clinical data, they accurately characterize the dysfunctions of the jaw-fascial area, the condition of soft tissues, changes in TMJ and the type of occlusion; distal occlusion for Class II.

According to 1 Engle, there is a weakening of the function of the muscles that extend the muscles of the lower jaw, jaw and orbicularis oris. In TMJ, a large amplitude of sagittal movements of the lower jaw is determined.

According to a number of authors, anthropometric diagnostic methods make it possible to determine the dimensions of the teeth, teeth and the apical bases of the jaws. This relationship breaks down in the distal occlusion of Class II, Class 1.

In 78.3% of patients with Distal congestion, changes in the sagittal ratio of maxillary teeth are inextricably linked with a change in the configuration of the upper teeth towards the narrowing of the apical base, in 88.3% this is combined with pathology. deep incision congestion.

In a comprehensive comparison of patients with Distal occlusion and physiological occlusion. A relationship was found between the occlusion plane ratio and its rotation, which manifests itself in a higher position in the molar are.

Analysis of literary sources has shown that there is a great deal of scientific work devoted to the study of deformation of dento-alveolar arches in patients whose incisors protrude during distal occlusion, and they play a fundamental role in most of them. study of changes in the apical base, the position of the upper incisors relative to the skeletal base [2.4.6.8.10.12.14.16.18.20.22.23].

The description of dento-alveolar protrusion of the upper jaw concludes that in the treatment of distal occlusion of Class 1 II in Engl, it is necessary to pull the upper incisors back, often with the removal of premolars . A sign of an anomaly in the condition of the teeth (vestibular condition), which also indicates that the doctor is treated the wrong way - with the removal of premolars.

TRG analysis in patients with distal occlusion of Class II, subclass 1 according to Engle is of interest to many authors.

The most complete study of distal occlusion of Grade II, Grade 1 is J. A. _ McNamara . The relationship between the relative frequency of the appearance of various detectable components in nosological forms of distal occlusion in children aged 8.0 to 10 years to 11 months, with anteroposterior condition of the upper jaw, was assessed. and the structures of the skull were determined using two variables: the angle SNA and the distance from point "A" to the perpendicular drawn through point N (Nasion). It turned out that 47% of patients showed a neutral position of the upper jaw and only 14% showed a protrusion of the upper jaw structures, while 39% of patients showed a location of the upper jaw, which indicated its retroactive position. in relation to the structures of the base of the skull. When studying the distance from point " A " from N to perpendicular (Nasion), almost 66% of cases were in the neutral range, with a little more than 10% showing maxillary skeletal protrusion and almost 25% a retruded state. Based on the above data, it was concluded that in most patients with distal occlusion, the position of the upper jaw is normal in people whose position differs from the accepted norm.

When assessing the condition of the upper incision in individuals with distal occlusion in relation to the a-Pg line . In 75% of patients, dento-alveolar protrusion of maxillary teeth is observed. 20% maxillary teeth have a normal condition. In assessing the condition of high-toothed teeth in relation to the a-Pg line, the conclusion is the need to pull back high teeth in the treatment of distal dental congestion.

However, a number of authors argue that this indicator strongly depends on the condition of the lower jaw and is therefore not an effective indicator of the condition of the upper teeth; the more accurate the retrognathic indicators of the lower jaw, the more. A-Pg occurs a protrusive position of the upper incisors relative to the straight line.

In a group with Distal occlusion, many of the subjects usually placed their lower incisor teeth. In 15% of cases, the incisors are in retrosion, and in 20% - in protrusion. This information requires further study, since this indicator affects the condition of the upper and lower jaw.

In Distal occlusion, the nature of radiocephalometric (teloradiographic) information depends on its clinical appearance, in particular on the combination of the facial skeleton with gnathic or other diseases.

Conclusion. It is noteworthy that there are no publications on the development of the facial skeleton in a vertical direction in the Distal occlusion. In the available literature sources, no studies have also been found on the effect of vertical growth disorders on the sagittal imbalance of the jaws. According to the angle taken into account in combination with the type of deformations of dento-alveolar arcs, a list of disorders has not been formed for the choice of treatment method and apparatus for distal occlusion of subclass II, 1. vertical growth of the facial skeleton. Distal occlusion of Class II, Class 1 is characterized by typical intraoral and facial symptoms and has a very diverse clinical picture.

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