The theme of the class № 6

Clinical manifestation and diagnosis of mesial bite

The content of the topic:

Mesial occlusion belongs to sagittal plane anomalies and is rather widespread dentognathic pathology, observed in any period of occlusion formation.

There are differentiated physiological and pathological types of progenia.

Physiological progenia is characterised by multiple contacts between the dental arches both in the front and lateral parts. It is viewed as an anatomic variant, which does not require any orthodontic treatment.

At pathologic progenia contacts between teeth are violated. There occur morphological, functional, and esthetic changes of the dentognathic apparatus, which require orthodontist's intervention.

Most authors differentiate two main progenia forms: true and false.

L.V. Ilyina-Markosian divides false progenia into two forms:

- anterior false progenia;
- forced occlusion.

Their etiology, pathogenesis, functional and morphological disturbances, and treatment differ. Some authors (L.V. Ilyina-Markosian, D.A. Kalvelis) view false progenia as inverse overbite of individual upper frontal teeth at preserved correct correlation of both dental arches along the full length. A.I. Betelman, Y.M. Aleksandrova, A.D. Mukhina refused from this term and classify false progenia as upper frontal teeth palatine position.

Forced occlusion is a kind of false progenia and develops as a result of the habit of protruding the lower jaw. This form of false progenia is also called articular.

Mesial occlusion has characteristic facial and intraoral features. The main facial feature is lower jaw protrusion. At external examination, in cases of lower jaw enlargement the disturbed harmony of face profile attracts attention: the chin and upper lip protrude considerably, at that the upper lip somewhat falls back relative to the lower one, the subnasal fold is deep, the lower lip red border is wide.

At deep overbite the lower part of face is not infrequently shortened, as a result of which the lower lip is thickened. At increased lower jaw angles and open bite the lower part of face is elongated, the lips close tensely, the oral fissure not infrequently gapes. If mesial occlusion combines with forward lower jaw shift, facial signs of disturbances are fullblown.

Oral cavity examination shows that the lower jaw is located in front of the upper one, its dental arch is wider.

The closure of the 1st permanent molars and canine teeth by 3rd Angle's type may be by 1/2 size of the 1st permanent molar tubercle, by one tubercle, by 1/2 of the 1st permanent molar crown and more.

Frontal teeth correlation may vary: in some cases the labial surface of the upper incisors touches the lower incisors lingual surfaces, in other cases there is an inverse sagittal gap between the frontal teeth by 3 mm and more. Inverse overbite depth may be minimal, moderate, or deep.

Mesial occlusion is more often complicated with upper jaw narrowing, which causes lower lateral teeth prevailing over the upper ones. The upper jaw may be flattened in the frontal part. Uni- or bilateral crossed relation is observed in the lateral parts.

The upper frontal teeth as a result of microgenia are located with torsions, transfer vestibularly, there is often observed frontal teeth congestion orally. The lower incisors sometimes deviate vestibularly, as a result of which diastems and diaereses form between them, or they press the upper incisors, increasing their palatine inclination.

At a most evident anomaly the lower jaw as though absorbs the upper one. The contact in the region of lateral and frontal teeth is violated, only the gliding of the lower teeth lingual surface on the upper teeth buccal surfaces takes place.

Functional disorders are also very important at mesial occlusion. Face form is violated. At the absence of occlusive contact between incisors food biting becomes impossible. Because of the forward shift of the whole lower jaw dental arch and molars correlation violation the general mastication area decreases.

Tubercular closure, which forms between the masticatory teeth, hampers food grinding.

Sometimes, because of lower jaw protrusion, functional disorders, conditioned by its articular heads location in the glenoid fossae, there appears pain in the joints, crunch, clicking.

The speech of patients with mesial occlusion is violated, lisping appears.

Dense location of the lower frontal teeth combines with dental tartar deposit, precervical caries, gingivitis.

For the differential diagnostics of dento-gnathic and gnathic forms of mesial occlusion the clinical functional test is used: the patient's face form is evaluated in profile at usual occlusion (the symptom of "capricious face") and if the patient can shift the lower jaw backwards to the maximum till the marginal incisors closure, and at that 1st permanent molars correlation becomes characteristic of the neutral occlusion, the dento-alveolar form of mesial occlusion with lower jaw protrusion is diagnosed. In another case mesial occlusion is caused by the difference in the dento-gnathic arches and/or jaws sizes. If jaw dislocation is present, face expression improves after the jaw is set in correct position.