

TO CREATE A MEASUREMENT ALGORITHM USING THE PON - LINDER - HART METHOD ON 3D COMPUTED TOMOGRAPHY AND A MEASUREMENT ALGORITHM USING THE KORKHOUSE METHOD ALSO ON 3D COMPUTED TOMOGRAPHY

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Relevance: According to other authors, it should be taken into account that the retention of the upper permanent canines entails a whole series of morphological problems and structural damage, these include: resorption of the roots of adjacent teeth, the formation of odontogenic tumors, abnormal eruption of adjacent teeth, violation of food capture and biting. Which, in turn, leads to a number of claims made by patients who have retained upper permanent canines, from the aesthetic side, among them violations of the smile line, the divergence of the center of the dentition, an anomaly of the position of the teeth, facial asymmetry are particularly noted.

3D computed tomography

To obtain a three-dimensional digital image with high resolution, the KaVo 3D eXam / i-CAT device (Germany) was used in a sitting position. The exposure time was 8.9 seconds. Reconstruction time is up to 10 minutes. Technical characteristics: 60 — 80 kV, 1 — 10 mA.

The aim of the study was to clarify the localization of the retented tooth, its position in relation to neighboring teeth, the level of occurrence, the position of the roots in relation to the nasal cavity, maxillary sinus. With the help of 3D computed tomography, the thickness of the cortical plate was measured at the place where the crown of the retented tooth fits in order to choose a surgical approach — the vestibular or palatine surface. With the help of this examination, the exclusion of ankylosing of the tooth was carried out. Also, using the data obtained from 3D computed tomography, the measurement was carried out by the Pona - Linder – Hart method, this method was used to determine the width of the dentition in children in a removable and permanent bite, to measure the length of the anterior segment of the upper dental arch was used.

In one child, the presence of two retentive canines was combined with two super-complete teeth. The age of children with retention of canines was different. The greatest appeal was noted at the age of 13 years (3 children) and at 12 and 14 years – 3 and 2 children, respectively.

During the period from 2020 to 2022, we conducted an examination and orthodontic treatment in 12 children and adolescents of the city of Bukhara aged 10 to 16 years with retention of canines. Of these, the majority were 7 boys (57%). The greatest turnover occurred at the age of 12 and 13 years, and in girls 13 and 14 (Table 2). 98% of patients complained of delayed eruption of complete teeth, cosmetic defect, incorrect position of complete teeth in the dentition.

The reasons for the retention of canines in children and adolescents of the city of Bukhara, according to our research data, anamnesis and clinical examination data, were: narrowing of the dentition

(48%), early removal of baby teeth, without subsequent orthodontic treatment (30%), the presence of overcomplicated teeth (20%), the cause could not be determined in 22%. Some patients had two or more reasons.

Conclusions

With combined treatment, complications are observed in the form of resorption of the surrounding bone tissue, the roots of neighboring teeth and the retented tooth itself, provided that the occurrence of the retented tooth is above level 2 and the angle of inclination of the tooth is more than 120 degrees.

Treatment is combined and necessarily includes, according to indications, surgical and orthodontic stages for retention and canine dystopia. The use of 3 D computed tomography to calculate the width and length of the dentition during orthodontic retraction allows you to quickly and accurately plan the orthodontic stage of treatment and ultimately obtain a full aesthetic result.

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