



DENTAL ANOMALIES IN CHILDREN DURING THE PERIOD OF EXCHANGE AND PERMANENT BITE

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ABSTRACT: *The authors found that in recent years, the amount of tooth deformation that occurs during the period of tooth replacement has increased. An important aspect to prevent tooth-jaw deformation is the identification and elimination of the causes of tooth-jaw deformation during the period of tooth replacement. A long violation of breathing through the nose in the child's youth, affects not only the development of the chest, but also the deformation of the face: the upper jaw develops abnormally, its side parts merge, the hard palate becomes narrow and high. As a result, the upper jaw rows are narrowed, initially the upper jaw, and then the position of the lower jaw rows in a compressed and chipped position is observed.*

KEYWORDS: *tooth deformation, tooth replacement, tooth-jaw, chest, merge, palate, jaw rows.*

INTRODUCTION

Dental caries and its consequences lead to the destruction of crowns, changes in the periapical tissues, and early tooth loss. This leads to a displacement of the teeth towards the defect, changes in the shape of the dental arches, alveolar processes, and occlusive disorders. According to a number of authors [1.2.4.6.8.9] in 48.4 - 69.4% of children, dental anomalies are combined and have a pathological relationship with defects in the crowns of teeth and dentition. The analysis of epidemiological data on the pathology of the development of the dentoalveolar system over the past decade, including in the Republic of Tatarstan, indicates a tendency to increase occlusive disorders in children [3.5.7.9.11].

Unfortunately, the current conditions of socio-economic development of Russia during this period did not contribute to the development of children's dental services in the country [7.9.10]. Against the background of the resolution of the crisis in the social sphere and in the field of health care of the country, the situation and ways of reforming the dental service are now clearly defined [10.11.12]. The experience of the last decade has shown that the solution to the problem of dental anomalies in patients of different age groups is possible only on the basis of strengthening preventive work among the child population.

The influence of each of them on the development of the dentoalveolar system of a child with prematurely removed baby teeth, the nature of the interaction of these factors in this process has not yet been sufficiently studied and, moreover, has not been quantified. Despite the general recognition of the need for early detection, prevention and elimination of secondary deformities of the dentition and occlusive disorders, the modern literature does not fully cover the issues of the frequency and structure of defects in the crowns of teeth and dentition, the need for children in preventive prosthetics, and the effectiveness of therapeutic and preventive measures. **The aim of the study** is to improve the methods of prevention of dental anomalies in children during the period of change and removal of permanent Teeth, depending on the age of the child.

Research objectives.

1. To examine the structure and prevalence of dental-jaw anomalies in children in the period of exchange and permanent tooth extraction.
2. Evaluation of immunological and microbiological status of oral cavity in children with dental anomalies in the period of exchange and permanent tooth extraction .
4. Development of the algorithm of treatment of dental anomalies Komplex in children in the period of exchange and permanent tooth extraction
5. Early diagnosis and development of prophylactic measures for children tooth-jaw anomalies in the period of exchange and permanent tooth extraction.

Object of research.

In the course of the study, 46 children aged 9 to 18 years living in Bukhara region with dental anomalies during the period of exchange and permanent tooth extraction are examined. Clinical – laboratory approvals serve as the main criteria for the selection of patients to the studied group.

Research methods.

The examination program consists of traditional and specialized clinical examination methods and dental examination methods at all stages.

- a) clinical-dental examination methods
- b) anthropometric
- C) X-ray
- d) immunological and microbiological

Expected scientific novelty from the research work. During the scientific examination, the algorithm of measures for the exchange and profiling of children's dental-jaw anomalies in the period of permanent tooth extraction is developed and the effectiveness is increased.

The narrowing of the upper dentition is accompanied by anomalies in the position of the teeth, dentition and bite. Along with morphological changes in the narrowing of the upper dentition, there is a change in the temporomandibular joint, the functions of the chewing and facial muscles, periodontal teeth, improper breathing, swallowing, speech disorders, etc. Patients often turn to an orthodontist with complaints about aesthetic disorders of the face (the most common of them is a violation of the harmony of the smile), as well as these indicators at the end of treatment, the results are evaluated.

At the same time, at present, orthodontic treatment by doctors does not sufficiently take into account the individual characteristics of the soft tissues of the face, the assessment of the harmony of the smile and the face as a whole.

Orthodontic patients often have complexes associated with an imperfect appearance on the background of dental pathology. It is important for the orthodontist to understand how developed these complexes are, who imposes them, and how adequate they are with varying degrees of severity of the dentoalveolar anomaly. This makes it possible to treat patients' problems with greater understanding and to be psychologically closer to them. We have developed a technique that allows us to assess the impact of malocclusion on the patient's self-esteem, which is a questionnaire consisting of 15 questions.

These questions allowed us to assess: the purpose of the visit to the orthodontist; whether the surrounding people noticed the presence of orthodontic problems or not; the patients' opinion about their own appearance and their attitude to the existing malocclusion; whether the orthodontist and the patient evaluated the anomaly equally or not. The questionnaire was filled out at the initial visit to the orthodontist, in compliance with the conditions of voluntary and anonymity, then the patient was examined and the degree of severity of the dentoalveolar abnormality was assessed. The results of the survey allowed us to assess the psychological characteristics of the patient, and in combination with the examination data – the adequacy of the attitude to the existing dental pathology.

So, 96% of the surveyed patients repeatedly said that their teeth and smile are not beautiful and that they need to see an orthodontist. At the same time, 28% of the respondents were socially maladapted due to psychological pressure from others. It is obvious that most patients have sought orthodontic help to get rid of the complexes imposed on them and to change the opinion of others about themselves. One of the goals of this study was to determine how the patient and the orthodontist assess the malocclusion of the patient himself. It was assumed that orthodontists treat malocclusion more critically than the patients themselves.

However, the study showed that only in 35% of cases, orthodontists have a more critical attitude to the malocclusion and the need for its correction than the patients themselves. In 47% of cases, the patient's attitude to their bite is adequate and coincides with the doctor's vision. In 18% of cases, patients treat their bite too critically. Most patients, probably due to their age (only adult patients participated in the study), are well aware that they have problems with the bite and do not feed vain illusions associated with quick and easy treatment. Since the patient and the orthodontist assess the condition of the bite differently, as shown by the study, this should be taken into account when planning treatment and choosing the equipment that will be used in the patient to correct the malocclusion. Sometimes treatment is necessary to increase the patient's self-confidence and satisfaction, even in the case of a minimal malocclusion, for which there is no medical indication.

A total of 5 parameters were taken into account. The first four parameters are anthropometric: the width of the upper dentition in the canine region, the first premolars, the first molars, and the length of the anterior segment of the upper dental arch. The determination of the normal values (standards) of the anthropometric parameters of the upper dentition was carried out using the method proposed by us. This group of standards is called "average values". These are the data that can be used to predict the anthropometric parameters of the upper dentition obtained after orthodontic treatment: the width of the upper dentition in the canine region is 35.0 mm.; the first premolars-37.0 mm; the first molars-46.0 mm; the length of the anterior segment of the upper dentition - 17.0 mm.

Further, the influence of various indicators of anthropometric parameters of the upper dentition on the parameters of smile aesthetics in patients with dentoalveolar anomalies accompanied by narrowing of the upper dentition was evaluated. Each of the four anthropometric indicators was compared with an aesthetic parameter. The results showed that at the same value of the aesthetic parameter, the anthropometric indicators can be different.

In this regard, it is advisable to study correlations and determine standards for predicting anthropometric and aesthetic parameters before and after treatment. At the second stage of the study, the relationship between the anthropometric parameters of the upper dentition before and after treatment was evaluated. The aim of the stage was to select reliable standards for predicting the anthropometric parameters of the upper dentition: the width in the canine region, the first premolars, the first molars, and the length of the anterior segment of the upper dentition after orthodontic treatment with fixed devices in adult patients with narrowing of the upper dentition. Thus, using the same treatment protocol, we can assume that at the end of the treatment we will get rows of teeth of the same shape. Accordingly, the anthropometric parameters of the upper dentition, such as: the width of the upper dentition in the area of the canines, the first premolars, the first molars and the length of the anterior segment of the upper dentition should be similar.

Most often, either they do not exist at all, or they change by 1 mm. In the area of the first premolars, the expansion of the upper dental arch was more active. In most cases, the expansion occurred from 2 to 4 mm. The maximum expansion in this area, which was achieved in four patients, was 6 mm. In the area of the first molars during orthodontic treatment, the expansion was insignificant. In patients of the main group, it was significantly possible to expand the dentition 2 times more than in patients of the comparison group, who before treatment had an undetected narrowing of the upper dentition (less than 3 mm). Thus, it was found that the more pronounced the narrowing of the upper dentition before treatment, the more visible the result was obtained after. That is, patients with more pronounced deformity of the maxillary arch before treatment, have the potential to expand and lengthen the upper dentition more. Conversely, patients with less pronounced deformity of the maxillary arch before treatment have less potential to expand and lengthen the upper dentition. At the next stage of the study, the relationship between smile parameters before and after treatment was evaluated. Smile photometry was performed for 23 patients.

This fact is due to the leading correction of the anomaly considered in our study-the expansion of the upper dental arch. The increase in the dental component of the smile and the decrease in the areas of the cheek components occurred in the range from 1 to 6%. The last stage of the study was a comparison of changes in the parameters of the smile and biometric indicators of the narrowed upper dentition during orthodontic treatment. To do this, the Spearman correlation coefficient was calculated for each pair of

features. As a result, there was a very weak direct correlation between the increase in the dental component of the smile and the expansion of the upper dental arch in the canine region ($r=0.05$).

A similar relationship was determined between the increase in the dental component of the smile and the change in the length of the anterior segment of the upper dentition ($r=0.09$). Also weak is the direct correlation between the increase in the dental component of the smile and the expansion of the upper dental arch in the molar region ($r=0.17$). The direct correlation between the increase in the dental component of the smile and the expansion of the upper dental arch in the premolar region ($r=0.80$), on the contrary, is strong.

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