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CLINICAL FEATURES AND CORRECTION OF DENTITION ABNORMALITIES AND MALFORMATIONS IN PEDIATRIC PATIENTS

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Abstract (Paraphrased):

Between 2023 and 2025, clinical assessments and treatment were carried out for 120 children aged 10 to 18 years presenting with occlusal deformities of the dental arches, alongside a control group of 35 healthy peers. Various types of malocclusions were observed, including midline asymmetry in 12 patients (10%), infraocclusion in 24 cases (20%), supraocclusion in 18 cases (15%), and partial tooth loss in 20 children (16.67%). The overall dental caries prevalence in this age group was recorded at 68.7%. An increase in vertical facial dimension was noted, particularly among adolescents aged 14–18, possibly influenced by physiological factors. The treatment protocol developed and recommended in this study showed superior effectiveness compared to conventional approaches, achieving a success rate of 93.4%.

Keywords: Dentition anomalies, occlusal deformity, oral cavity, pediatric dentistry, dental correction.



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Relevance

The evaluation of dentoalveolar irregularities and malformations, along with the assessment of therapeutic outcomes, continues to be a priority in modern pediatric dentistry. After dental caries and periodontal disease, dentoalveolar anomalies are among the most prevalent oral health concerns in children. During the mixed dentition period, the dentoalveolar system undergoes critical developmental changes. Timely identification and management of occlusal disturbances at this stage are essential for the harmonious development of the dental arches and facial skeleton. Therefore, there is an urgent need for contemporary diagnostic and treatment strategies, especially for anomalies linked to bite discrepancies and occlusal instability.

Object of the Study

This clinical investigation encompassed 155 pediatric patients aged 10–18 years. Of these, 120 were diagnosed with occlusal anomalies, while the remaining 35 served as a healthy control group. All participants received treatment or consultation at the Dental Center of the Bukhara State Medical Institute.

Results and Analysis

Detailed patient histories were collected and analyzed, including symptom onset and progression. Comprehensive clinical examinations were conducted on all participants. The cohort included 57 females and 63 males, subdivided according to dentition development stages, based on D.A. Kalvelis' classification:

- **Group 1 – Late Mixed Dentition (10–13 years):** 52 children (28 boys, 24 girls)
- **Group 2 – Permanent Dentition (14–18 years):** 68 children (36 boys, 32 girls)

In the primary cohort, both local and systemic factors contributing to malocclusion were investigated, particularly in relation to the timing of tooth loss and the resulting morphological and functional impacts on the dentoalveolar complex. Examinations were performed using standard dental tools, with assessments including patient



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complaints, inspection of oral tissues, dentition, periodontal health, masticatory muscles, and temporomandibular joints.

Conclusion (Paraphrased):

The study revealed that the prevalence of dental arch abnormalities increases with age. Observed conditions included:

- Midline asymmetry of incisors — 12 patients (10%)
- Infraocclusion — 24 patients (20%)
- Supraocclusion — 18 patients (15%)
- Partial edentulism — 20 patients (16.67%)

Dental caries was highly prevalent, affecting 68.7% of participants. By specific age, caries prevalence was:

- Age 10: 63.5%
- Age 13: 62.7%
- Age 15: 47.8%
- Age 18: 41.4% ($p < 0.001$)

These findings underscore the effectiveness of the newly applied treatment protocol, which surpassed traditional methods and can be recommended for broader adoption in pediatric dental care.

References

1. Aliev, Z.U. (2012). Regional Features of the Prevalence of Dentofacial Anomalies in Children. *Bulletin of Problems in Biology and Medicine*, 2(2), 237–240.
2. Arzumanyan, A.G., & Fomina, A.V. (2019). Prevalence and Structure of Dentofacial Anomalies Among School-Aged Children. *Bulletin of New Medical Technologies (Tula)*, 26(3), 5–8.
3. Bragin, A.V., et al. (2008). Ontogenetic Evaluation of Systemic Resistance Mechanisms in Dentofacial Pathologies. *Russian Dental Journal*, 5, 23–27.



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4. Gazhva, S.I., Zyzov, D.M., Shestopalov, S.I., & Kasumov, N.S. (2015). Temporomandibular Joint Pathologies in Patients with Tooth Loss. Modern Problems of Science and Education, Issue 6.
5. Dolgaev, A.A. (2008). Diagnostic Approaches to Occlusal Disorders in Patients with TMJ Pathologies. Bulletin of New Medical Technologies, Issue 2, 80.