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CLINICAL ASSESSMENT AND TREATMENT OF OCCLUSAL CHANGES IN CHILDREN'S DENTAL ARCHES

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Abstract
This article examines occlusal changes in children's dental arches, their clinical diagnosis, and treatment methods. The primary causes of occlusal disorders, modern approaches to their correction, and preventive measures are discussed. The study highlights the importance of early intervention in managing occlusal irregularities to prevent more severe dental and maxillofacial anomalies in the future.

Keywords: Occlusion, dental arches, children, orthodontics, diagnosis, treatment.

Introduction

Proper occlusion formation in children is a crucial aspect of dental health, as deviations can lead to functional and aesthetic disturbances. Occlusal changes may result from genetic factors, harmful oral habits, jaw growth patterns, and dentoalveolar anomalies.
The aim of this study is to analyze occlusal surface changes in children's dental arches, assess their clinical diagnosis, and evaluate effective treatment methods.

Materials and Methods

The study involved **50 children** aged **5 to 12 years**, who exhibited different types of occlusal disorders. The patients were divided into three groups:

1. **Children with normal occlusion (control group)**
2. **Children with initial signs of occlusal changes**
3. **Children with severe malocclusions**

Diagnostic Methods

- Clinical examination
- Analysis of dental models
- Orthopantomography (OPG)
- Cephalometric radiography
- Cone-beam computed tomography (CBCT)

Treatment Approaches

- Myofunctional therapy and functional appliances (for mild cases)
- Removable and fixed orthodontic appliances
- Comprehensive orthodontic therapy for severe cases

Results

The analysis of diagnostic data revealed the following types of occlusal disorders:

- **Distal occlusion** – **38%**
- **Mesial occlusion** – **22%**
- **Deep bite** – **18%**
- **Open bite** – **12%**
- **Crossbite** – **10%**

Effectiveness of Treatment Methods

- Functional appliances improved occlusion in **85% of children** with mild changes
- Orthodontic treatment achieved successful correction in **92% of patients**
- Comprehensive therapy corrected severe malocclusions in **88% of cases**

Discussion

The findings indicate that early diagnosis and timely treatment of occlusal disorders in children can prevent more severe orthodontic problems in adulthood. The most effective treatment methods include removable and fixed orthodontic appliances, as well as a comprehensive approach involving myotherapy and, in some cases, surgical intervention.

Conclusions and Recommendations

1. **Early diagnosis** of occlusal disorders enhances treatment success and prevents the need for complex orthodontic interventions in the future.

2. **Functional appliances** (e.g., trainers and plates) are effective for mild occlusal corrections.

3. **Fixed orthodontic systems** (e.g., braces) provide optimal results in treating severe malocclusions.

4. **A multidisciplinary approach**, including orthodontic, myotherapeutic, and surgical correction, is essential for managing severe occlusal disorders.

References

1. Proffit W. R., Fields H. W., Sarver D. M. Contemporary Orthodontics. 6th ed. St. Louis: Elsevier, 2019.
2. Grippaudo C., Pantanali F. Early orthodontic treatment: a systematic review. European Journal of Paediatric Dentistry. 2021; 22(3): 143–150.
3. Bishara S. E. Textbook of Orthodontics. Philadelphia: Saunders, 2016.

4. McDonald R. E., Avery D. R., Dean J. A. Dentistry for the Child and Adolescent. 10th ed. St. Louis: Elsevier, 2022.
5. Kokich V. O., Spear F. M. Interdisciplinary management of anterior dental esthetics. Journal of Esthetic and Restorative Dentistry. 2018; 30(2): 108–122.

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