

EUROPEAN INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY
RESEARCH AND MANAGEMENT STUDIES

VOLUME04 ISSUE12

DOI: <https://doi.org/10.55640/eijmrms-04-12-57>

Pages: 331-338



TRAUMATIC OCCLUSION: DEFINITION, CAUSES, DIAGNOSIS, AND TREATMENT

Kosimova Dilafruz

Department of orthopedic dentistry, Samarkand State Medical University, Samarkand, Uzbekistan

ABOUT ARTICLE

Key words: Traumatic occlusion, dental occlusion, dental trauma, periodontal health, treatment modalities.

Received: 20.12.2024

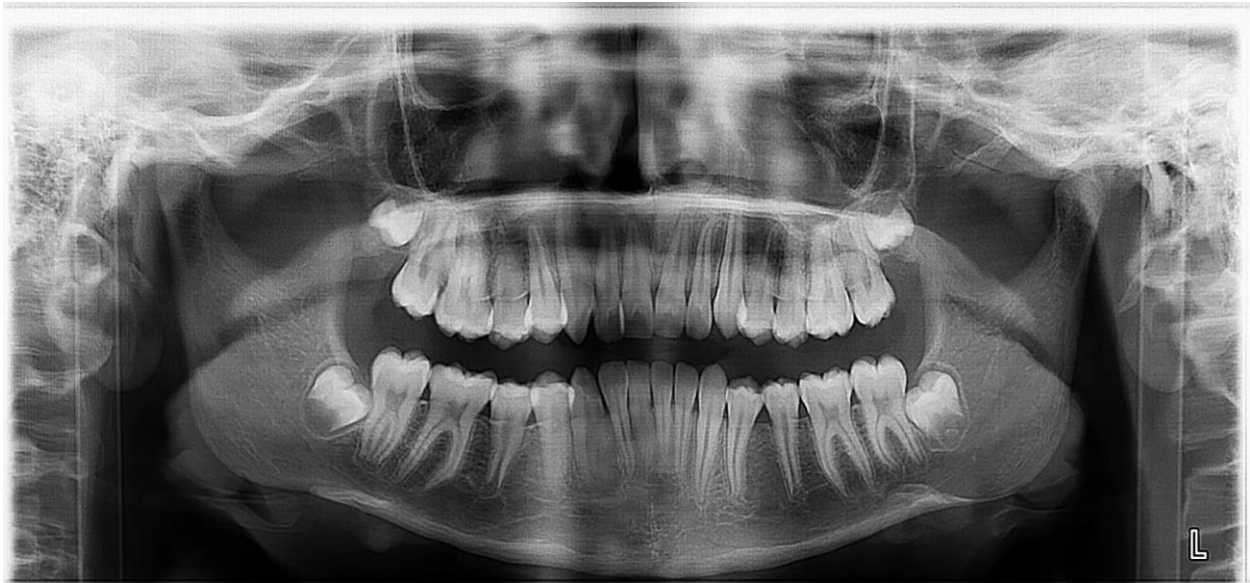
Accepted: 25.12.2024

Published: 30.12.2024

Abstract: Traumatic occlusion refers to a dental condition where the occlusal forces exerted on teeth exceed their physiological limits, leading to various dental and periodontal issues. This article explores the definition, causes, diagnosis, and treatment options for traumatic occlusion. A comprehensive understanding of this condition is vital for dental professionals to prevent and manage its associated complications effectively.

INTRODUCTION

The concept of occlusion is fundamental in dentistry, encompassing the alignment and contact between the upper and lower teeth. Traumatic occlusion occurs when there is an imbalance in the forces acting on the teeth, resulting in excessive stress on the dental and periodontal structures. This condition can lead to a range of issues, including tooth mobility, periodontal disease, and discomfort. Understanding the various aspects of traumatic occlusion is essential for effective diagnosis and treatment. This article aims to provide a detailed overview of traumatic occlusion, including its definition, causes, diagnostic methods, and treatment options.



METHODS

Data Collection

A thorough literature review was conducted to gather information on traumatic occlusion. Sources included peer-reviewed journals, dental textbooks, and clinical guidelines focusing on occlusal problems and their management.

Analysis

The collected data were organized into the following categories:

1. Definition of Traumatic Occlusion: A detailed explanation of the condition.
2. Causes of Traumatic Occlusion: An exploration of the various factors contributing to the condition.
3. Diagnosis: Methods used to identify traumatic occlusion.
4. Treatment Options: An overview of available treatment modalities.

Definition of Traumatic Occlusion

Traumatic occlusion is defined as a condition where abnormal occlusal contacts result in excessive forces on the teeth, leading to damage to the dental and periodontal structures. This condition can manifest in several ways, including:

- **Tooth Mobility:** Increased movement of teeth due to compromised periodontal support.
- **Periodontal Inflammation:** Inflammation of the supporting structures of the teeth, potentially leading to periodontal disease.
- **Tooth Wear:** Abrasion, attrition, or erosion of dental enamel resulting from abnormal occlusal contacts.

Traumatic occlusion is often classified into two categories:

1. **Primary Traumatic Occlusion:** Occurs when normal occlusal forces are applied to a tooth with compromised periodontal support.
2. **Secondary Traumatic Occlusion:** Occurs when excessive forces are applied to a tooth with healthy periodontal support.

Causes of Traumatic Occlusion

Several factors contribute to the development of traumatic occlusion, including:

1. Dental Malocclusion

- **Misaligned Teeth:** Crowding, spacing issues, and improper alignment can lead to abnormal occlusal contacts.
- **Skeletal Discrepancies:** Differences in the size and position of the upper and lower jaws can create occlusal interferences.

2. Parafunctional Habits

- **Bruxism:** Involuntary grinding or clenching of teeth can exert excessive forces on dental structures.
- **Thumb Sucking or Nail Biting:** These habits can alter the normal occlusion and lead to trauma.

3. Dental Restorations

- **Poorly Designed Restorations:** Inadequate occlusal adjustments on crowns, bridges, or fillings can create high spots that lead to traumatic occlusion.

- **Wear of Restorative Materials:** Over time, restorations may wear down, leading to changes in occlusal relationships.

4. Trauma

- **Direct Trauma:** Injuries to the teeth or jaws can disrupt normal occlusal relationships.
- **Orthodontic Treatment:** Movement of teeth during orthodontic procedures can temporarily create imbalances in occlusion.

Diagnosis

Diagnosing traumatic occlusion involves a comprehensive clinical evaluation, including:

1. Patient History

- **Symptom Inquiry:** Gathering information about symptoms such as pain, discomfort, or tooth mobility.
- **Evaluation of Habits:** Identifying parafunctional habits that may contribute to occlusal trauma.

2. Clinical Examination

- **Visual Inspection:** Assessing the condition of the teeth and periodontal tissues for signs of trauma or inflammation.
- **Mobility Testing:** Evaluating the mobility of individual teeth to determine the extent of periodontal involvement.

3. Occlusal Analysis

- **Articulating Paper:** Using articulating paper to identify high spots and points of contact during occlusion.
- **Tactile Examination:** Assessing occlusion by feeling for discrepancies in the bite.

4. Radiographic Evaluation

- **X-rays:** Utilizing dental radiographs to assess the health of periodontal structures and to identify any underlying issues.

Treatment Options

Treatment of traumatic occlusion focuses on alleviating symptoms, restoring normal occlusion, and preventing further damage. Options include:

1. Occlusal Adjustment

- **Selective Grinding:** Adjusting the occlusal surfaces of teeth to eliminate high spots and achieve a balanced occlusion.
- **Recontouring Restorations:** Modifying existing restorations to improve occlusal relationships.

2. Orthodontic Treatment

- **Malocclusion Correction:** Utilizing braces or aligners to correct misaligned teeth and improve overall occlusion.

3. Splints and Night Guards

- **Occlusal Splints:** Custom-made devices worn to alleviate the effects of bruxism and protect teeth from excessive forces.
- **Night Guards:** Appliances designed to prevent teeth grinding during sleep.

4. Periodontal Therapy

- **Scaling and Root Planing:** Professional cleaning to address periodontal inflammation and promote healing.
- **Surgical Interventions:** In severe cases, surgical procedures may be necessary to restore periodontal health.

5. Restorative Procedures

- **Replacement of Defective Restorations:** Replacing or repairing compromised dental restorations that contribute to occlusal trauma.
- **Crowns and Bridges:** Employing restorative techniques to restore function and aesthetics while maintaining proper occlusion.

RESULTS

1. Clinical Outcomes

Studies indicate that appropriate treatment of traumatic occlusion can lead to significant improvements in oral health. Key findings include:

- **Reduction in Symptoms:** Patients often report decreased pain and discomfort following occlusal adjustments and other treatments.
- **Stabilization of Tooth Mobility:** Treatment can lead to reduced tooth mobility and improved periodontal health.

2. Long-Term Success

Research shows that timely intervention in cases of traumatic occlusion can prevent further complications, such as advanced periodontal disease and tooth loss. Regular follow-up care is crucial for maintaining long-term success.

3. Patient Satisfaction

Improved occlusal function and alleviation of symptoms contribute to higher patient satisfaction. Many individuals report enhanced quality of life following successful treatment of traumatic occlusion.

DISCUSSION

Traumatic occlusion is a multifaceted condition that can significantly affect dental and periodontal health. Understanding its causes, diagnosis, and treatment options is essential for dental professionals.

Key considerations include:

1. **Interdisciplinary Approach:** Collaborating with orthodontists, periodontists, and restorative dentists can enhance treatment outcomes and ensure comprehensive care.
2. **Patient Education:** Educating patients about the importance of maintaining proper occlusion and addressing parafunctional habits is vital for prevention.
3. **Continuous Monitoring:** Regular evaluations and adjustments are essential for managing traumatic occlusion and preventing recurrence.

CONCLUSION

Traumatic occlusion is a significant concern in dentistry that requires careful diagnosis and treatment. By understanding its causes and implementing appropriate interventions, dental professionals can mitigate the effects of traumatic occlusion, improve patient outcomes, and maintain overall oral health. Continued research and advancements in treatment modalities will further enhance the management of this condition in clinical practice.

REFERENCE

1. Marjona T. OPTIMIZATION AND IMPROVEMENT OF CARIES TREATMENT IN THE FIELD OF PERMANENT TEETH FISSURES IN CHILDREN //European International Journal of Multidisciplinary Research and Management Studies. – 2024. – T. 4. – №. 10. – C. 78-84.
2. Ruziyeva K. A., Burhonova Z. K. K. Complex Application Of Magnetic Laser Therapy And Propolis Tincture For The Prevention And Treatment Of Chronic Recurrent Aphthous Stomatitis //The American Journal of Medical Sciences and Pharmaceutical Research. – 2021. – T. 3. – №. 06. – C. 127-130.
3. Sevinch E., Zараfruz B. ETIOLOGICAL TREATMENT FEATURES INFLAMMATORY PERIODONTAL DISEASE //European International Journal of Multidisciplinary Research and Management Studies. – 2024. – T. 4. – №. 03. – C. 241-246.
4. Zараfruz K. S. B. THE ROLE OF ORAL CAVITY MICROORGANISMS IN THE DEVELOPMENT OF INFLAMMATION AND SOMATIC PATHOLOGY //International journal of advanced research in education, technology and management. – 2024. – T. 3. – №. 8. – C. 192-202.
5. Yusufboy S., Qobilovna B. Z. STUDY THE EFFECT OF HYGIENIC CARE ON THE MICROBIAL LANDSCAPE OF THE ORAL CAVITY IN PATIENTS USING COMBINED SPLINTING STRUCTURES WITH MODERATE PERIODONTITIS //European International Journal of Multidisciplinary Research and Management Studies. – 2024. – T. 4. – №. 02. – C. 50-55.
6. Yusufboy S., Qobilovna B. Z. FEATURES OF THE STRUCTURE OF COPD IN ELDERLY PATIENTS //European International Journal of Multidisciplinary Research and Management Studies. – 2024. – T. 4. – №. 05. – C. 363-368.
7. Sevinch E., Qobilovna B. Z. A STUDY ON THE MORPHOFUNCTIONAL STATE OF ORAL ORGAN TISSUES DURING THE USE OF NON-REMOVABLE ORTHODONTIC STRUCTURES //European International Journal of Multidisciplinary Research and Management Studies. – 2024. – T. 4. – №. 03. – C. 247-253.

- 8.** Shaximardonova E. S., Kobilovna B. Z. RED LICHEN PLANUS OF THE ORAL MUCOSA AND ITS CLINICAL ANALYSIS OF A PATIENT WITH, ASSOCIATED WITH THE EPSTEIN—BARR VIRUS //European International Journal of Multidisciplinary Research and Management Studies. – 2024. – T. 4. – №. 01. – C. 272-279.
- 9.** Yusufboy S., Qobilovna B. Z. STUDY OF CHANGES IN THE ORAL CAVITY IN ENDOCRINE DISEASES //European International Journal of Multidisciplinary Research and Management Studies. – 2024. – T. 4. – №. 05. – C. 357-362.
- 10.** Yusufboy S., Qobilovna B. Z. STUDY OF CHANGES IN THE ORAL CAVITY IN ENDOCRINE DISEASES //European International Journal of Multidisciplinary Research and Management Studies. – 2024. – T. 4. – №. 05. – C. 357-362.
- 11.** Yusufboy S., Qobilovna B. Z. SMARTBURS II—A REVIEW OF THE ADVANTAGES OF SMART BOR //European International Journal of Multidisciplinary Research and Management Studies. – 2024. – T. 4. – №. 02. – C. 56-60.
- 12.** Makhmudovna T. M. et al. THE COURSE OF MALFORMATION AND CORNEAL EROSION IN TUBERCULOSIS PATIENTS //Open Access Repository. – 2023. – T. 4. – №. 03. – C. 60-66.
- 13.** Dilafruz K. ROOT CANAL PREPARATION AS A STAGE OF TOOTH RESTORATION //International journal of advanced research in education, technology and management. – 2024. – T. 3. – №. 9. – C. 100-107.
- 14.** Dilafruz K. COMPREHENSIVE TREATMENT GENERALIZED PERIODONTITIS AND CLINICAL AND RADIOLOGICAL EVALUATION OF EFFECTIVENESS //International journal of advanced research in education, technology and management. – 2024. – T. 3. – №. 9. – C. 108-116.