JOURNAL OF MULTIDISCIPLINARY SCIENCES AND INNOVATIONS
VOLUME 05, ISSUE 01
MOPNTHLY JOURNALS
ISSN NUMBER: 2751-4390
IMPACT FACTOR: 9,08

OPTIMIZATION OF THE TREATMENT OF PERIODONTAL AND HARD DENTAL TISSUE DISEASES IN PATIENTS WITH IODINE DEFICIENCY

Khayitova Mohinur Dzhurayevna
Asian International University
Email: mohinurxayitova45@gmail.com

Abstract

This article discusses the clinical course of periodontal and hard dental tissue diseases in patients with iodine deficiency and issues related to optimizing their treatment. The results of the study show that under conditions of iodine deficiency, diseases of the oral cavity have a more severe course, and a comprehensive, pathogenetically based approach significantly increases the effectiveness of treatment.

Keywords: iodine deficiency, periodontal diseases, caries, remineralization, complex treatment.

Iodine deficiency is one of the most widespread global health problems and negatively affects the entire body through thyroid dysfunction. Iodine deficiency disrupts metabolism, immune system function, and tissue regeneration processes. This condition creates a basis for the development of pathological processes in the oral cavity, especially in periodontal tissues and hard dental tissues.

Therefore, the development of effective and optimized methods for the treatment of dental diseases in patients with iodine deficiency is considered highly relevant.

1. Relevance of the Problem

Iodine deficiency leads to thyroid dysfunction, causing disturbances in metabolic processes, immune response, and regenerative capacity. This condition is manifested in the oral cavity, particularly in periodontal and hard dental tissues, by rapid disease progression and a severe clinical course.

Iodine deficiency, accompanied by thyroid dysfunction, negatively affects metabolism, immunity, and bone-tissue regeneration. From a dental perspective, it is associated with:

- early onset and severe course of periodontal diseases;
- dental caries and enamel hypoplasia;
- impaired dentin mineralization;
- chronic inflammatory processes in the oral cavity.

2. The Effect of Iodine Deficiency on Periodontal and Hard Dental Tissues

2.1. In periodontal tissues:

- impairment of microcirculation;
- decreased collagen synthesis;
- increased production of inflammatory mediators;
- deepening of periodontal pockets.

2.2. In hard dental tissues:

- demineralization of enamel and dentin;
- reduced resistance to caries;
- increased tooth sensitivity.

3. Ways to Optimize Treatment

3.1. Comprehensive approach (basic principle)

Treatment should not be limited to local dental procedures only, but should be carried out with consideration of the patient's endocrine status. Management should be conducted in

cooperation between a dentist and an endocrinologist. Correction of the underlying condition—iodine deficiency—significantly improves the effectiveness of dental treatment.

3.2. Diagnostic stage

- periodontal indices (PMA, CPI, OHI);
- assessment of the condition of hard dental tissues;
- general medical history (presence of iodine deficiency);
- consultation with an endocrinologist when necessary.

3.3. Treatment of periodontal diseases

Local measures:

- professional oral hygiene (scaling and root planing);
- antiseptic and anti-inflammatory agents;
- gels and pastes that stimulate regeneration;
- agents enhancing local immunity;
- physiotherapeutic procedures (according to indications).

Systemic measures:

- strengthening of the immune system;
- antioxidant therapy;
- vitamin and mineral complexes (with consideration of iodine balance).

3.4. Treatment of hard dental tissues

- remineralization therapy;
- fluoride and calcium-phosphate preparations;
- non-invasive treatment of early-stage caries;
- preventive procedures to strengthen enamel;
- use of bioinert and tissue-compatible restorative materials.

4. Prevention and Follow-up

- individualized oral hygiene programs;
- inclusion of iodine-rich foods in the diet (according to physician recommendations);
- dental check-ups every 3–6 months;
- prevention of recurrence of periodontal diseases;
- consumption of iodine-rich foods and iodized salt;
- correct selection of individual oral hygiene products;
- regular dental monitoring.

5. Conclusion

Optimization of the treatment of periodontal and hard dental tissue diseases in patients with iodine deficiency should be based on:

- a comprehensive approach;
- interdisciplinary cooperation;
- an individualized treatment strategy.

This approach reduces disease severity, improves treatment effectiveness, and ensures long-term remission.

References:

1. Khayitova, M. Z. (2024). Modern views on the Causes and Treatment of Caries of Temporary Teeth in Young Children. *International Journal of Alternative and Contemporary Therapy*, *2*(9), 123-127.
2. Khayitova, M. D. (2024). Morphological Features of Bottle (Circular) Caries. *American Journal of Bioscience and Clinical Integrity*, *1*(10), 117-124.

3. Dzhuraevna, K. M. (2024). Features of Caries Morbidity in Preschool Children. *Research Journal of Trauma and Disability Studies*, *3*(3), 300-305.
4. Hayitova, M., & Taylakova, D. (2023). DENTAL CARIES IS A DISEASE OF CIVILIZATION. *Центральноазиатский журнал образования и инноваций*, *2*(8), 61-66.
5. Джураевна, К. М. (2024). Клинико-морфологические аспекты трещин на задних зубах у взрослых. *Научный журнал травматологии и инвалидности* , *3* (5), 429-432.
6. Dzhuraevna, K. M. (2024). Prevalence and Course of Dental Diseases Among Younger Patients. *Research Journal of Trauma and Disability Studies*, *3*(5), 433-436.
7. Хайитова, М. Д. (2023). Особенности Возникновение И Течение Кариеса Зубов. *Research Journal of Trauma and Disability Studies*, *2*(12), 356-363.
8. Хайитова, М., & Тайлакова, Д. (2023). ВЗГЛЯД СТОМОТОЛОГА НА ГИГЕНУ ПОЛОСТИ РТА У ДЕТЕЙ. *Инновационные исследования в современном мире: теория и практика*, *2*(23), 58-59.
9. Хайитова, М. Д. (2023). РАСПРОСТРАНЕННОСТЬ И РАСПРЕДЕЛЕНИЕ ТРЕЩИН НА ЗАДНИХ ЗУБАХ СРЕДИ ВЗРОСЛЫХ ПАЦИЕНТОВ (ОБЗОР ЛИТЕРАТУРЫ). *Лучшие интеллектуальные исследования*, *12*(1), 186-195.
10. Dzhuraevna, K. M. (2024). Clinical and Morphological Aspects of Cracks on The Back Teeth in Adults. *Research Journal of Trauma and Disability Studies*, *3*(5), 429-432.
11. Dzhuraevna, K. M. (2023). THE FREQUENCY OF DENTAL DISEASES IN CHILDREN (LITERATURE REVIEW). *Лучшие интеллектуальные исследования*, *12*(1), 159-168.
12. Dzhuraevna, K. M. (2023). FEATURES OF THE OCCURRENCE OF DENTAL DISEASES IN CHILDREN. *Лучшие интеллектуальные исследования*, *12*(1), 178-185.
13. Khayitova, M. (2025). GUIDELINES FOR DENTAL EMERGENCIES DURING A PANDEMIC. *Modern Science and Research*, *4*(1), 827-835.
14. Хаитова, М. (2025). СТОМАТОЛОГИК КАСАЛЛИКЛАР ПРОФИЛАКТИКАСИДА ФТОР САКЛОВЧИ БИРИКМАЛАРНИНГ АХАМИЯТИ. *Современная наука и исследования* , *4* (2), 1055–1065.
15. Тошбеков Б. и Хаитова М. (2025). ТИШ КАРИЕСИ ПРОФИЛАКТИКАСИНИНГ ИНСОН ОРГАНИЗМИДАГИ АХАМИЯТИ. *Современная наука и исследования* , *4* (2), 591–594.
16. Khayitova, M. (2025). TISH YUZASIDA HOSIL BOLADIGAN KARASHLAR VA TOSHLAR (CHOKMALAR). *Modern Science and Research*, *4*(3), 1405-1412.
17. Хаитова, М. (2025). ТИШ КАТТИК ТО'КИМАСИ РЕМИНЕРАЛИЗАЦИЯ КАРИЕС ПРОФИЛАКТИКАСИДАГИ О'РНИ. *Современная наука и исследования* , *4* (4), 1801–1806 гг.
18. Khayitova, M. (2025). BOLALARDA KARIES PROFILAKTIKASIDA FISSURALARNI MUHRLASH VA ULARNING AHAMIYATI. *Modern Science and Research*, *4*(5), 504-507.