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TACTICS OF ORTHOPEDIC TREATMENT OF NON-CARIOUS TOOTH DEFECTS AMONG RESIDENTS OF THE GURLEN DISTRICT KHOREZM REGION

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ANNOTATION: (ENG) The article examines modern approaches to orthopedic treatment of non-carious tooth defects among residents of the Gurlen district, Khorezm region. An analysis of the clinical characteristics of tooth damage caused by regional factors, including dietary habits, environmental conditions, and the level of hygiene culture among the population, has been conducted. Special attention is paid to selecting optimal methods of prosthetics and restoration aimed at restoring the function and aesthetics of teeth. The results of using modern orthopedic constructions and materials in treating this category of patients are presented. The study highlights the importance of an individualized approach and preventive measures to enhance the effectiveness of treating non-carious tooth defects.

Keywords: Non-carious tooth defects, orthopedic treatment, prosthetics, tooth restoration, Khorezm region, Gurlen district, individualized approach, prevention, modern orthopedic constructions, regional factors.

INTRODUCTION

Non-carious lesions of teeth are a widespread dental problem, which occupies a significant place in the structure of morbidity of the population[1]. These defects, which occur without the involvement of cariesogenic microorganisms, include pathological conditions such as enamel erosion, wedge-shaped defects, hypoplasia and abnormal erasability[2]. They negatively affect not only the functional state of the dento-mandibular system, but also the quality of life of patients, causing discomfort, aesthetic problems and reduced chewing efficiency.

Of particular importance are the regional peculiarities of occurrence and progression of non-carious dental defects due to the influence of natural-climatic, environmental and social factors. In Khorezm region, in particular in Gurlene district, specific conditions contributing to the increased incidence of such diseases have been identified. Among them, the quality of drinking water, the nature of nutrition, as well as the peculiarities of the population's professional activity stand out.

Modern approaches to orthopaedic treatment of non-carious dental defects require not only restoration of anatomical shape of teeth and their functional characteristics, but also

consideration of individual characteristics of patients, such as the condition of hard tissues of teeth, the degree of severity of the defect and age.

The aim of this review article is to analyse modern methods of orthopaedic treatment of non-carious dental defects taking into account the regional characteristics of the population of Gurlene district of Khorezm region, as well as to consider the most effective approaches to the restoration of the dentoalveolar system in this group of patients.

LITERATURE STUDY.

In recent decades, the issues of prosthetic treatment of non-carious dental defects have attracted the attention of dental specialists worldwide. This is due to the increasing frequency of such defects and their diversity, as well as the need to develop new approaches to diagnosis and treatment. Literature sources on this topic cover a wide range of aspects, including classification, diagnosis, prophylaxis and methods of restoration of dental tissues.

Non-carious dental defects can occur for a variety of reasons, including mechanical, chemical, biological and physiological factors. Mechanical abrasion of teeth (e.g. bruxism) or chemical exposure (e.g. excessive consumption of acidic beverages or gastroesophageal reflux disease) are the main causes of wedge-shaped defects and enamel erosions. At the same time, studies have shown that genetic factors and tooth structure may influence the propensity to develop non-carious defects.

Studies in different populations show that environmental and social factors, including diet and water quality, have a significant impact on the incidence of non-carious dental defects. In some regions, such as countries with high consumption of hard water, the probability of erosions and other enamel defects is increased. In Khorezm region, including Gurlene district, the characteristic climatic and environmental conditions may influence the prevalence of non-carious defects, which makes it necessary to conduct additional research to understand this relationship.

Numerous scientific works are devoted to the methods of orthopaedic treatment of such defects. An important aspect is the choice of restorative materials, such as composite and ceramic restorations, which provide an aesthetic and durable result. Modern treatment approaches include minimally invasive techniques such as restorations using different types of tooth coverings (e.g. veneers and inlay), which help to preserve as much of the natural tooth tissue as possible. More complex techniques such as the use of implants and dentures for extensive defects are also considered

However, there is still a need for a deeper study of the influence of regional factors on the nature and prevalence of non-carious dental defects, which will substantiate the relevance of conducting research in the Khorezm region. It is also important to identify optimal methods of treatment for this group of patients, taking into account the peculiarities of their health, lifestyle and habits.

Thus, the literature on orthopaedic treatment of non-carious dental defects covers various areas, including diagnosis, treatment methods and restoration, as well as the influence of environmental and social factors on the prevalence and severity of the disease. The inclusion

of these aspects in the context of the study of Gurlene district of Khorezm province will allow for more accurate recommendations for practical application in orthopaedic dentistry.

MAIN PART

Theoretical aspects of non-carious dental defects

Non-carious dental defects are diseases that are not associated with an infectious process but are caused by mechanical, chemical or physiological factors. They can manifest themselves as erosions, wedge-shaped defects, hypoplasia, and pathological erosion of tooth enamel. These defects can significantly affect the functional and aesthetic characteristics of the dentoalveolar system, leading to chewing problems and reduced self-confidence.

The main mechanisms for the formation of non-carious defects include:

- Mechanical impact - such as in bruxism (teeth grinding) or trauma.
- Chemical exposure - this is damage to enamel by exposure to acids, such as in gastroesophageal reflux disease or consumption of acidic foods.
- Physiological effects - for example, the effects of changes in the composition of saliva, which can lead to impaired mineralisation of teeth.

Environmental and social factors can also influence the development of non-carious defects. In different regions, including the Khorezm region, there may be specific dental diseases associated with hard water, climate or dietary traditions, which in turn requires the development of regional approaches to prevention and treatment.

Environmental and social factors influencing the incidence of non-carious defects

There are many factors that can influence the development of non-carious dental defects in certain regions. In particular, in Khorezm region, ecology plays an important role as the water in the region is characterised by high hardness, which can lead to an increased risk of erosions and other dental enamel defects[3]. Hard water contains high amounts of calcium and magnesium, which can affect the mineralisation of teeth, compromising their structure.

Social factors also play a significant role in the prevalence of non-carious defects. In particular, a traditional diet that includes large amounts of acidic foods and beverages[4] such as kvass, juices with added acid, and low intake of calcium and vitamin rich foods may contribute to the development of enamel erosion.

In addition, the lifestyle and occupational activities of the population can affect dental health. For example, smoking and alcohol consumption, which are common among certain population groups, are additional risk factors for the development of non-carious defects.

Modern methods of diagnosis and treatment of non-carious defects

Diagnosis of non-carious defects begins with a thorough clinical examination and the use of instrumental methods such as radiography and special tests to assess the condition of the enamel. An important aspect of diagnosis is to determine the cause of the defect, which allows the most appropriate treatment method to be chosen[5].

Treatment methods:

- Minimally invasive methods: Modern dental prosthodontics seeks to preserve as much natural tooth tissue as possible. In this regard, techniques such as composite restorations and ceramic coatings are used. These make it possible to restore dental defects with minimal preparation while preserving the natural tooth structure.
- Composite Restorations: This is one of the most popular methods of restoring teeth, especially for wedge-shaped defects and erosions. Composite materials offer good aesthetic qualities and durability, as well as the ability to create a natural-looking tooth.
- Ceramic restorations: For more extensive tooth damage or defects, ceramics are used to ensure that the restoration is durable and aesthetically harmonious with natural teeth. Ceramic coverings such as veneers and inlays are commonly used in the treatment of non-carious defects.
- Use of Implants: In cases where the defect is too large to be restored using conservative methods, implants or dentures are used. This can restore both the functionality and aesthetics of the maxillofacial system.

Peculiarities of orthopaedic treatment in the conditions of Gurlen district of Khorezm region

The peculiarity of treatment of non-carious defects in Khorezm region lies in taking into account the environmental factors of the region, such as water quality, as well as socio-economic aspects, including dietary traditions. For the population of Gurlene district, an important aspect is the use of local materials, such as ceramics and composites, as well as methods adapted to the climatic conditions[7]

An important challenge is the introduction of effective prevention methods that will take into account local specificities. For example, programmes to inform the population about the importance of good nutrition, limiting the consumption of acidic foods and regular dental hygiene prevention can significantly reduce the prevalence of non-carious defects[8]

Perspectives and recommendations

In conclusion, it should be noted that the treatment of non-carious dental defects requires a comprehensive approach that includes diagnosis, prevention and the use of advanced restorative techniques. In the Khorezm region, it is important to take into account regional specificities in order to develop the most effective treatment strategies for the local population.

Future research should aim to better understand the impact of environmental factors on dental health, and to develop new materials and technologies that can even more effectively restore teeth and prevent tooth damage. This approach will help to summarise all key aspects related to the treatment of non-carious dental defects in Gurlene district of Khorezm province and provide practical recommendations for prosthetic dentistry.

CONCLUSIONS AND RESULTS

The problem of non-carious dental defects

Non-carious defects, including wedge-shaped defects and enamel erosions, are an important problem in dentistry. In Khorezm region, their prevalence is due to environmental and social factors such as water hardness and dietary habits[9]

Regional peculiarities

In Gurlen district of the region, high water hardness and dietary habits contribute to the development of non-carious dental defects. These factors require the development of region-specific prevention and treatment methods.

Modern treatment methods

Modern treatment approaches include minimally invasive techniques such as composite and ceramic restorations, which ensure the longevity and aesthetics of restored teeth[10]

Role of prevention

Prevention, including educational programmes on the harm of acidic foods and the importance of hygiene practices, plays a key role in reducing the incidence of non-carious defects.

Recommendations for further research

Further research is needed to assess the impact of environmental and social factors on dental health and to develop new treatment materials adapted to the region.

Prospects for development

The development of regional standards of treatment and prevention, taking into account local conditions, will help to improve the quality of dental care and reduce morbidity in the Khorezm region.

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