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# Clinical characteristics of the mucous membrane of the oral cavity and periodontal tissues during prosthetics with zirconium bridge prostheses

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#### **Abstract**

Currently, it has been proven that orthopedic treatment of patients with diseases such as lichen planus, leukoplakia, gum fibromatosis, papillomatosis, angular cheilitis is not only possible, but also necessary. This is due to the undoubted role of dental prosthetics in the prevention of exacerbations of these nosological forms. An important role in the pathogenesis of diseases of the oral mucosa is played by local mechanical and electrochemical stimuli.

**Keywords:** tooth position anomalies, partial tooth loss, orthopedic metal constructions

#### Introduction

These are: firstly, anomalies in the position of the teeth, deformation of the dentition, sharp edges of the teeth, partial loss of teeth, which contribute to trauma to the mucous membrane of the oral cavity; secondly, improperly designed or inferior dentures; thirdly, orthopedic structures made of metals with different electrochemical potentials.

Diseases of the oral mucosa occupy a special place among dental diseases. Diagnosis and treatment of such diseases is extremely difficult. In addition, many of these diseases are infectious in nature, causing the risk of infection by medical personnel. In this regard, questions arise about when to carry out orthopedic treatment of patients with diseases of the oral mucosa and what features of prosthetics exist.

# Purpose of the study

To identify the features of orthopedic treatment of patients with diseases of the oral mucosa.

#### **Materials and Research methods**

To accomplish this task, we examined 42 people (26 women and 16 men) aged 25 to 56 years with partial tooth loss, defects in the hard tissues of the teeth and with the following diseases of the oral mucosa: chronic mechanical trauma, leukoplakia, chronic recurrent aphthous stomatitis, lichen planus, candidiasis. The examination included data from a clinical examination, an assessment of the general state of health, cytological, histological and bacteriological methods of investigation, radiation diagnostics of the maxillofacial region. Clinical examination consisted of two stages: medical history, external examination and examination of the oral cavity. The anamnesis data included an official anamnesis, social status indicating the type of work and possible occupational hazards, as well as an anamnesis of life and disease to identify possible etiological factors in the development of pathology. During an external examination, the following parameters were evaluated: face configuration, ratio of a third person, degree of opening of the mouth, pain during palpation of the TMJ, the nature of the movement of the articular heads, the state of regional lymph nodes, the condition of visible skin integuments. Examination of the oral cavity was carried out according to the standard protocol, including palpation, assessment of mobility, color, gloss, surface topography of the oral mucosa.

A questionnaire method was used to assess the general health status of patients. Particular attention was paid to the identification of pathologies of the central nervous system, cardiovascular, digestive, endocrine and immune systems.

The cytological method was used to clarify the diagnosis and differential diagnosis, identify the onset of malignancy and the characteristics of the inflammatory process. Material for the study was taken from various fields of the damaged area:

Corresponding Author: Kh. K Akhmedov Bukhara Medical Institute Uzbekistan The center, periphery, and control smears were imprinted from the apparently unchanged oral mucosa.

Bacteriological studies were performed to clarify the diagnosis and differential diagnosis. Smears - fingerprints obtained from the lesion, after fixation were stained and the microbial flora was determined under a microscope.

#### Research results

According to the results of the study, all patients were divided into four groups: 1 - individuals with partial tooth loss, defects in hard tooth tissues, without diseases of the oral mucosa, requiring orthopedic treatment with fixed dentures (artificial crowns and bridges). Patients of this group did not have a history of evidence of diseases of the central nervous system, cardiovascular, digestive, endocrine and immune systems (this group was 8 people); 2 - persons with partial tooth loss, defects in the hard tissues of the teeth, with diseases of the oral mucosa, requiring orthopedic treatment with fixed dentures (artificial crowns and bridges). Patients of this group have a history of diseases of the central nervous system, cardiovascular, digestive, endocrine and immune systems (this group was 13 people), 3 - persons with partial tooth loss, without diseases of the oral mucosa, requiring partial orthopedic treatment removable dentures dentures (arches and laminar dentures). Patients of this group did not have a history of evidence of diseases of the central nervous system, cardiovascular, digestive, endocrine and immune systems (this group was 7 people); 4 - persons with partial tooth loss, with diseases of the oral mucosa, requiring orthopedic treatment with partial removable dentures (arches and laminar dentures). Patients of this group have a history of diseases of the central nervous system, cardiovascular, digestive, endocrine and immune systems (this group was 8 people).

# **Study results**

The results of the study showed that despite various etiology and pathogenesis, a variety of options for the clinical course of chronic diseases of the oral mucosa, a number of principles of orthopedic treatment of such patients can be distinguished. For prosthetics of dentitions with fixed structures, the following should be considered:

- 1. It is necessary to minimize all factors leading to irritation and trauma of the mucous membrane.
- It is necessary to expand the indications for the use of fixed prostheses, which practically do not exert pressure on the mucous membrane and have minimal contact with it
- 3. Stamped-soldered bridges, due to corrosion, alter the microelement composition of the oral fluid. Therefore, it is preferable to manufacture dentures from homogeneous metal alloys, especially noble ones. Bridges in such cases should be cast all-metal or cermet. The priority is the use of non-metal structures of bridges.
- 4. Silver ions contribute to the normalization of the activity of saliva enzymes. This allows patients to recommend the manufacture of dental prostheses from alloys based on silver and palladium.
- 5. Preparation of supporting teeth should be carried out with strict regard to the requirements of aseptic and antiseptic, with atraumatic displacement of soft tissues. After preparation of hard tissues, it is necessary to smooth the sharp edges of the teeth and treat their surface with a polisher.

- 6. Work impressions should be obtained using one-step methods to exclude additional trauma to the mucous membrane when the impression spoon is reintroduced into the oral cavity with hardened impression material. For auxiliary impressions, alginate impression masses must be used. When removing impressions, the edges of the spoons should be edged with wax or adhesive tape and elastic impression materials should be used. It is not recommended to obtain impressions with thermoplastic masses, since they are inserted into the oral cavity in a heated state, which can cause additional irritation of the mucous membrane.
- 7. The body of the bridge should not be adjacent to the mucous membrane of the alveolar bone in order to avoid mechanical injury.
- 8. Bridge structures should have carefully polished surfaces without sharply protruding elements.

If there are indications for the use of removable structures, preference should be given to arc and plate prostheses with supporting and retaining elements (clasps, attachments, telescopic crowns, beam and magnetic fixation systems) for unloading the mucous membrane, followed by silvering of the inner surface of the base adjacent to the affected mucous membrane, since silver ions have an anti-inflammatory effect and normalize the activity of enzymes and the total protein content in saliva and mucous membrane.

For prosthetics with removable plate prostheses for extensive defects of the dentition or complete absence of teeth, it is necessary to use two-layer bases made of colorless plastic with an elastic lining. The soft plastic lining can be located differentially only in areas of localization of foci of mucosal lesions or along the edge of the basis. This contributes to an even distribution of chewing pressure on the mucous membrane, absorbs chewing pressure, prevents or reduces pain, improves fixation of prostheses and normalizes the timing of adaptation to them.

Particular attention in orthopedic treatment should be paid to eliminating violations of articulation of artificial dentition, balancing the basis. Through optimal restoration of the height of the lower part of the face, volume modeling of the bases of prostheses, the correct orientation of the occlusal plane and the creation of a tubercle overlap, it is possible to prevent infringement of the mucous membrane, as well as biting of the lips and cheeks, especially in the area of lesions.

When applying dentures, the patient needs to check the boundaries of the basis, the thoroughness of polishing the prosthesis and the articulation relationship of the dentition of the jaw. The edges of removable dentures should be thickened and rounded to prevent mechanical injury. It is necessary to slightly polish the inner surface of the base of the removable prosthesis, achieving the removal of small roughnesses that cause microtrauma of the prosthetic bed of the prosthetic bed. At the same time, the porosity of the base plastic also decreases, which reduces the delay of food residues and microorganisms on the denture, thereby reducing the inflammatory phenomena of the mucous membrane of the prosthetic bed.

Particular care should be taken in patients with precancerous diseases and malignant neoplasms of the oral mucosa.

In patients with traumatic papillomatosis, in order to prevent the degeneration of papillomas due to their easy vulnerability, frequent ulceration and the development of the inflammatory process in the stroma, prosthetics are performed only after surgical excision, electrocoagulation or cryodestruction of papillomas. At the end of dental prosthetics, patients with.

### Conclusion

Accurate diagnostics using modern methods and materials, carefully conducted differential diagnostics, rational prosthetics in combination with rehabilitation, general and local drug treatment contribute to a significant reduction in the intensity or disappearance of inflammatory phenomena of the oral mucosa and is an element in the prevention of their exacerbations.

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