



## A MODERN METHOD FOR SELECTING MATERIALS IN THE TREATMENT OF CHRONIC INFLAMMATORY-DESTRUCTIVE PERIODONTITIS

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### Relevance

The provision of high-quality and timely medical care is one of the important problems of modern healthcare in the Republic of Uzbekistan, including dentistry, as its most dynamically developing industry. Over the past 10 years in the Republic of Uzbekistan, the number of inflammatory diseases of the periapical tissues of the teeth has increased by 7-8%.

Destructive forms of chronic periodontitis pose the greatest potential danger to the body, since chronic foci of inflammation in the area of the apex of the tooth root can be the cause of odontogenic inflammatory processes in the maxillofacial region.

**Keywords:** periodontium, osteoplastic material, tricalcium phosphate, hydroxyapatite.

### Introduction

A large number of various treatment regimens for apical periodontitis have been proposed and studied, however, many of them are not effective enough and do not provide a complete recovery. In connection with the above, scientific and of practical interest are new biologically active osteoplastic materials intended for endodontic treatment. For this purpose, it is possible to use special forms of already known drugs of this pharmacological group used in maxillofacial surgery. Osteoplastic materials intended for use in therapeutic dentistry belong to the group of bioactive agents that can be included in the metabolic processes of bone tissue.

Biological activity is the ability of a synthetic material to actively interact and form a direct connection with surrounding tissues, showing osteoconductive and (or) osteoinductive properties. Osteoconductive drugs stimulate the osteoblastic activity of the surrounding bone, followed by resorption and replacement by newly formed bone tissue, being





passive matrix for the new bone. Osteoinductive materials are able to attract mesenchymal cells from surrounding non-bone tissues and induce their differentiation into osteoforming cells (chondrocytes, osteoblasts), cause cementogenesis and growth of the periodontal ligament. Possible combination in one

preparation of osteoconductive and osteoinductive properties. The main component of osteoplastic materials (OPM) used in

therapeutic dentistry is synthetic calcium orthophosphate - hydroxyapatite (HA). As additional ingredients, tricalcium phosphate (TC F), collagen, growth factors, as well as antibacterial and corticosteroid drugs are added to the preparations.

## **Purpose of the Study**

Increasing the effectiveness of the treatment of chronic destructive periodontitis through the use of "beyond the apical" technologies with the use of osteoplastic materials.

## **Tasks**

To study the effectiveness of the treatment of chronic destructive periodontitis using the drug "OSTEON 3 collagen" in combination with autologous platelet-rich plasma.

### **Materials and methods of research**

To achieve this goal, a comprehensive clinical and laboratory examination of 50 patients aged 20 to 60 years, including 29 men and 21 women, was carried out at the Samarkand dental clinic "SamCityDenta" and at the Department of Therapeutic Dentistry of the Samara State Medical Institute. The diagnosis was made on the basis of the clinical picture, radiological and laboratory methods.

### **Results and conclusions**

All patients underwent a clinical examination, X-ray examination of the teeth before and after treatment, taking into account the degree of bone resorption before treatment. The instrumental and drug treatment of the root canals and the apical focus was performed, the physiological narrowing was expanded to 30 sizes on the ISO scale, and an intracanal injection of platelet-rich autoplasm was performed using an endodontic needle with a diameter of 0.1 mm.

The amount of injected autoplasm: 0.1-0.2 ml. After 3 min. Osteon 3 collagen from 0.1-0.2 mg was injected apically with the help of a canal filler. Then it was dried, a permanent obturation of the canal was performed and the treatment was completed. Thus, the analysis of radiographic data confirmed the effectiveness of the use of postapical injection therapy platelet-rich autoplasm (PBRP) in combination with the





osteoplastic material "Osteon 3 collagen", which led to a pronounced restoration of bone tissue.

## **Conclusion**

Thus, preparations based on hydroxyapatite are promising materials for the treatment of combined periodontal and periodontal diseases, accompanied by destruction of bone tissue. Their use will increase the effectiveness of therapeutic effects in endodontic-periodontal lesions.

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