

**Introduction.** Indications for the use of platelet-rich plasma (PRP) in modern medicine are expanding every year, thanks to the high success of this technology. This article provides answers to questions: the essence of the method and its safety.

**Aim of the study.** To analyze the efficacy of using platelet-enriched plasma in surgical treatment (sinus lifting, dental extraction, implantology), as well as in the treatment of the diseases associated to periodontal tissues (gingivitis, periodontitis) of the oral cavity.

**Material and methods.** In accordance with the proposed purpose and objectives, we analyzed medical records and photographic data base of 20 patients and the sulcus bleeding index (SBI) before and after the treatment, this way we demonstrated the ability of healing and tissues regenerations. The method represents application the injection form of plasma which is obtained from the patients own blood and containing platelets which is accomplished by centrifugation using tubes and the separation gel. They contain growth factors which affect conjunctive, osseous and epithelial tissues and initiate their regeneration also they stimulate the formation and activation of fibroblasts producing collagen, hyaluronic acid and elastin, synthesizing a young tissue that normalizes tissue respiration and balances metabolic processes.

**Results.** At the end of the study with the two groups of patients, we determined the reduction of the papillary bleeding index (SBI) after the complex treatment of platelet-rich-plasma (PRP) by MeaPlasma method, for the patients who have been treated with an implant treatment and for patients with diseases of periodontal tissues.

**Conclusions.** Activating all components of natural regeneration processes, platelet-rich plasma represents a convenient and safe biological remedy that accelerates regenerative processes and for improvement of hygienic and periodontal indices, reduction of gingival bleeding, edema, reduction of dental mobility, normalization of gingival shape and color.

**Key words:** platelet-rich plasma (PRP), platelet , growth factors , injection method , stimulation of regeneration processes

### **346. EFFECT OF DECOMPRESSION USING CAD/CAM TECHNOLOGY VS. ANALOGUE METHODS FOR PATIENTS WITH VARIOUS JAW CYSTS**

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**Introduction.** Various odontogenic and nonodontogenic cysts can occur either in the upper or lower jaw, these entities are an important chapter of the oral and maxillo-facial pathology. Treatment methods for cystic lesions depends on the size, location, patient age, as well as proximity to vital structures such as teeth, inferior alveolar canal, and maxillary sinus. Radical treatment may be associated with numerous complications, such as facial deformity, missing teeth, infection of bone graft, and numbness if during surgery the nerve is harmed. Conservative treatment, such as decompression is recommended in case of large cysts or when it contains vital structures.

**Aim of the study.** The aim of this study is to assess the effectiveness of decompression using the CAD/CAM technology in comparison to traditional analogue methods by measuring cystic lesion volume changes using computed tomography.

**Materials and methods.** This study was axed on 4 patients, 2 of them had undergone traditional decompression for a cystic lesion of the jaw at the Department of Oral and Maxillofacial Surgery, and in 2 cases a CAD/CAM decompression device was fabricated at the SRL. „OMNI DENT”, study was conducted between 2015 and 2017. CT scans were taken in all patients before and after decompression at 3 and 6 months. Each scan was analyzed to evaluate the volume

changes of cystic lesions to determine the time of enucleation, by using the threshold method, each cyst was virtually segmented.

**Results.** In all 4 cases semi-automatic virtual segmentation of the cystic lesion, was performed. The duration of decompression ranged from 6 to 24 months. The reduction rates of cystic lesions in analogue group ranged from 39,64% to 87,23% with a mean of 63,43%, and in CAD/CAM group ranged from 60,47% to 98,32% with a mean of 79,39%.

**Conclusions.** Even though traditional analogue methods have shown good results in reduction rates of cystic lesions, CAD/CAM is a subject of significant interest in the last years, which had shown promising results. The main advantages include the possibility to obtain a patient specific implant with increased precision which is less invasive with fewer surgical procedures, but further studies are necessary in order to confirm this statement.

**Key words:** cyst, decompression, CAD/CAM technology

### **347. CHRONIC GANGRENOUS PULPITIS. METHODS OF DIAGNOSIS AND TREATMENT**

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**Introduction.** Gangrenous pulpitis is characterized by septic modifications of the dental pulp and its decomposition under the action of aerobic and anaerobic germs that strictly involve the teeth and apical periodontium. The fermentative decomposition of proteins in dentinal canals and the organic substance in the tooth structure causes a decreased tooth resistance. Pulp gangrene can be an infection focus for the whole organism. It is therefore necessary to remove the infection focus in time, endodontically and effectively. The effectiveness of endodontic treatment depends on several factors: biomechanical preparation, irrigation, medicated dressings, endodontic space sealing and restoration of the anatomical shape of the dental crown.

**Aim of the study.** To study the etiology, pathogenesis and clinical evolution of chronic gangrenous pulpitis and the optimal treatment methods.

**Materials and methods.** A group of eight patients (3 women and 5 males) aged 25-50 years, were subjected to complex examination and endodontic treatment, being diagnosed with chronic gangrenous pulpitis. To increase the treatment efficacy, APEXDENT preparation was used, being applied on temporary dressings. It has an effect of inducing the formation of calcified tissue, antimicrobial action, decomposition and elimination of necrotic material and its discharge from the root canal. In the treatment we have applied modern technologies of permeabilization, sterilization and filling of the root canals.

**Results.** Of the 8 patients treated endodontically, only 2 relapsed. The study confirms that APEXDENT preparation corresponds to 75% of its properties and is effective in the treatment of chronic gangrenous pulpitis.

**Conclusion.** Temporary application of APEXDENT paste in the root canal resulted in a good sterilization of the root canals. Most importantly, the obtained results allowed us to use APEXDENT paste in the treatment of chronic gangrenous pulpitis.

**Key words:** pulp, pulp gangrene, infection focus, endodontic treatment

### **348. CHRONIC APICAL PERIODONTITIS. METHODS OF CONSERVATIVE AND SURGICAL TREATMENT**

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