

Introduction. Interdental contacts are an important factor to keep dento-alveolar system healthy. Its basic functions are protecting the underneath papilla and periodontal structures, prevention of carries and dispersal of masticatory forces. Studies show that distribution of dental caries is unequal, approximal surfaces being affected in up to 77%. Approximal caries may be difficult to diagnose and treat, even for an experienced dentist due to its hidden location. Diagnosing requires use of other methods than visual-tactile examination, such as: bitewing radiographs, fiberoptic-transillumination or fluorescent system like Saprolife. It is impossible to restore approximal surfaces with tight interdental contacts without using specially designed systems, like Palodent or Bioclear Biofit. This leads to an increased treatment time, especially when multiple teeth are affected.

Aim of study. To study the possibility of decreasing time necessary for restoring interdental contacts, using new materials and methods, preventing further complications.

Material and methods. In this study, 6 teeth (4 molars and 2 premolars) with approximal caries were divided into 2 groups. One group, consisting of 2 molars and 1 premolar, was treated with dental composite of low viscosity (Tetric N-ceram, Ivoclar) using “layered” technique. Another group was treated with bulk-fill composite of high viscosity (SDR, Dentsply) using “injection molding” technique. Total treatment time and approximal wall restoring was measured for every tooth of both groups. Post-op radiographs were taken.

Results. Due to increased polymerization depth of SDR composite (4 mm), fewer steps are required for core build up. As a result, total treatment time decreased on average by 4 minutes 50 seconds, along with wall restoring time decrease on average by 7 minutes 15 seconds, using “injection molding” technique. Post-op radiographs showed the presence of bubble in 1 tooth, restored by “layered” technique.

Conclusion. The “injection molding” technique requires fewer steps, less time, and reduces the possibility of further complication such as bubbles.

Key words: approximal caries, interdental contacts

342. PARTICULARITIES OF MEDIUM CARIES TREATMENT. MATERIALS AND TECHNIQUES OF TREATMENT

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Introduction. Dental caries (tooth decay) is an infectious and transmissible disease, which produces changes through demineralization in the mineral content of hard mineral tissues and which, under certain conditions, has the capacity to recur as well as to recover through demineralization processes. It is characterized by the demineralization of the inorganic part of the enamel, the destruction of its organic matrix and the softening of the hard dental tissues, with the subsequent cavity defect formation. The relevance of this topic is determined by the increasing incidence of dental caries, its severity, as well as local and general complications produced by dental caries. Also, the changes in tissues determine the type of material, the treatment methods used, and the attitude of the dentist in establishing the diagnosis and treatment plan.

Aim of the study. To study the particularities of medium dental caries manifestation and to select the appropriate filling materials and techniques.

Materials and methods. The study lot comprised 10 patients, of which 3 women and 7 men, aged 18-35 years, who were subjected to examination and treatment. After the examination, the diagnosis of chronic medium caries was established, the process being located on the occlusal

and proximal surfaces. In 4 cases, caries Class II was found (according to the Black classification) and in 6 cases - Class I was determined, respectively. To ensure an effective treatment, Seek&Sable Seek Caries Indicator - Ultradent caries detector was used to highlight the hidden areas affected by caries. It was also used Calcimol lc - base liner. As a treatment method, the layered filling technique was used.

Results. According to the study, the efficiency of the treatment was 99.99%, the results being kept until now. Due to the filling material used for the final filling of dental caries - Gradia direct, both the tooth function and aesthetics were restored.

Conclusions. The use of caries detector greatly facilitates the preparation of the carious cavity ensuring total removal of the altered dentin.

Key words: dental caries, carious cavity, layered filling technique

343. CONTEMPORARY CLINICAL AND TECHNOLOGICAL ASPECTS OF THE METAL CARCASSES OF FIXED DENTURES

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Introduction. The development of technology forces us to analyze the manufacturing techniques we use daily. Thus, classical manufacturing techniques are increasingly being replaced by automated production systems that optimize the quality and accuracy of finished work. Initially, the casting technique was based on gold alloys, which were replaced by alloys such as nickel-chromium (Ni-Cr) and cobalt-chromium (Co-Cr). In the last decade, new manufacturing processes using computer-aided design / computer-aided manufacturing (CAD / CAM) are becoming increasingly important for producing biomedical devices and dental prostheses. Co-Cr alloy dental carcasses can be manufactured using two technologies based on CAD / CAM processing: substrate manufacturing and addition manufacturing.

Aim of the study. Comparative evaluation of contemporary technological processes in order to optimize the use of fixed dental prosthesis with metal casing.

Materials and methods. The present work is based on the results of the complex clinical, paraclinical and prosthetic treatment with fixed works of 10 patients (6 m., 4 w.) and the analysis of the ambulatory files of 50 patients (32 m., 18 w.) with the age between 35 and 65 years, with different types of edentation. Selection of patients included: patients with severe systemic disease, patients with dental injuries coronary patients with fixed dentures, partial edentation patients with different classes according to Kennedy of maxilla and mandible, patients with financial means. In order to study comparatively different metal carcass manufacturing technologies, a Geller study model was developed, the metal mobilizable bin being standard. On this metallic shroud the metal carcass was made by three techniques (casting, milling and SLM). The obtained metal carcasses have been scanned and studied electronically in order to obtain objective data on the comparative accuracy of metallic constructions.

Results. According to the data obtained at the end of the study it was found that following scanning and electronic measurements, we obtained the following data: the size of the standard bin V-O 8,435 mm M-D 6,752 mm. Metal frames were made and the internal part measured by casting method the V-O 8,545mm M-D 6,944mm; by SLM printing method V-O 8,305 mm M-D 6,702 mm; by milling method V-O 8,438 mm M-D 6,748 mm.

Conclusions. Following the study and obtaining the electronic measurements of all Co-Cr alloy metal carcasses in order to make the fixed works by various manufacturing techniques (casting, milling and SLM) it was proved that all the techniques fall within the clinically acceptable range