

## **21. MORPHOFUNCTIONAL AND AESTHETIC RESTORATION OF FRONT TEETH WITH FLUID COMPOSITE MATERIALS. ANALYSIS OF THE AREAS OF INTERACTION OF COMPOSITE-HARD DENTAL TISSUE**

**Author:** Gorea Corneliu

**Scientific adviser:** Ciobanu Sergiu, MD, Associate Professor, *Ilarion Postolachi* Department of Orthopedic Dentistry *Nicolae Testemitanu* State University of Medicine and Pharmacy of the Republic of Moldova.

**Introduction.** The development of new technologies continues to improve the ability of the scientist, the manufacturer and the clinician to measure more efficiently and therefore to create a more ideal composite. However, the continuous search for an ideal restorative material, which is similar to the structure of the tooth, is resistant to masticatory forces, has physical and mechanical properties similar to that of the natural tooth, and has an appearance similar to natural dentin and enamel. As the mechanical properties of a restorative material approximate those of enamel and dentin, the longevity of the restoration increases.

**Aim of study.** Study of the areas of interaction "composite-hard dental tissue" in the comparative aspect of the adhesion of fluid vs hard composite materials, using electron microscopy of dental grinding.

**Methods and materials.** In this study, it was proposed to analyze the adhesion of fluid and hard composite materials to the interaction with dental tissues. During the experiment, 16 preparations were made. The patients, after consulting the dentist-orthodontist, decided to perform dental extractions. At the first visit, the affected areas of the hard dental tissues were imitated in the areas of the tooth package 14, 24, 34, 44, in the same stage the dental restorations were performed. Teeth 14, 44 were restored with fluid composites, and teeth 24, 34 were restored by hard composite materials. Preparation of dental grinds and their analysis under an electronic microscope.

**Results.** The analysis of the dental grinding of the interaction area between the composite materials and the hard dental tissues showed that the adhesion of the fluid composites vs hard ones is clearly superior.

**Conclusion.** The most recent studies evaluated on state-of-the-art fluid composites have shown that fluid composite materials are designed to provide better mechanical, physical, optical and aesthetic properties than many other universal composites.