

**A.V.Samoilenko,
M.V.Pomoynskaya**

State institution
“Dnipropetrovsk Medical Academy of the Healthcare Ministry of Ukraine”

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STRUCTURAL AND MORPHOLOGICAL CHARACTERISTICS OF THE ZONE OF HYBRIDIZATION UNDER DIFFERENT MOISTURE OF THE DENTIN OF THE CARIES CAVITIES

The study was conducted as a part of research work “Development and introduction of new methods of diagnosis, treatment and prevention of dental caries and its complications, diseases of periodontium and oral mucosa”, (state registration 0110U003018).

Summary. The aim of the study was to investigate the hermetic seal of fit and ultrastructure of the hybrid layer using adhesive systems with different solvents. At 108 extracted teeth examined quality of fit of the seal and microstructure of interaction of adhesive and hard tissues of the tooth dentin with varying humidity and, depending on the type of solvent adhesive systems. Found that the need for a differentiated approach to the choice of the parameter humidity dentin cavity at a choice of different adhesive systems. And evaluation of regional penetration of the dye on the boundary of the "tooth-filling" and the study of the architectonics of adhesive bonds at the microstructural level, showed that 19.7% of the most moisture is indicated for use of adhesive systems with an aqueous solvent, 20.0% - from ethanol and 20.3% - with acetone solvent. Derivations approach to dentin moisture creates optimal conditions for inside of the dentin adhesive penetration and the formation of hermeticism, which further improves the durability of the functioning of the seal.

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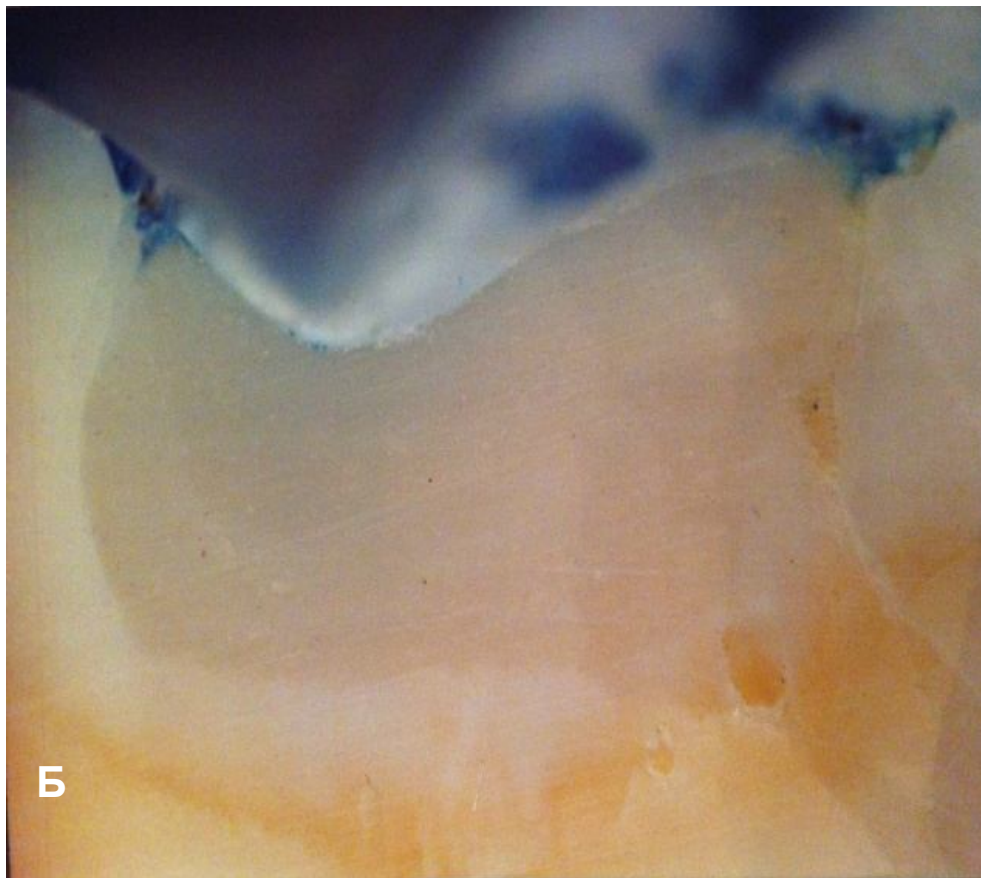
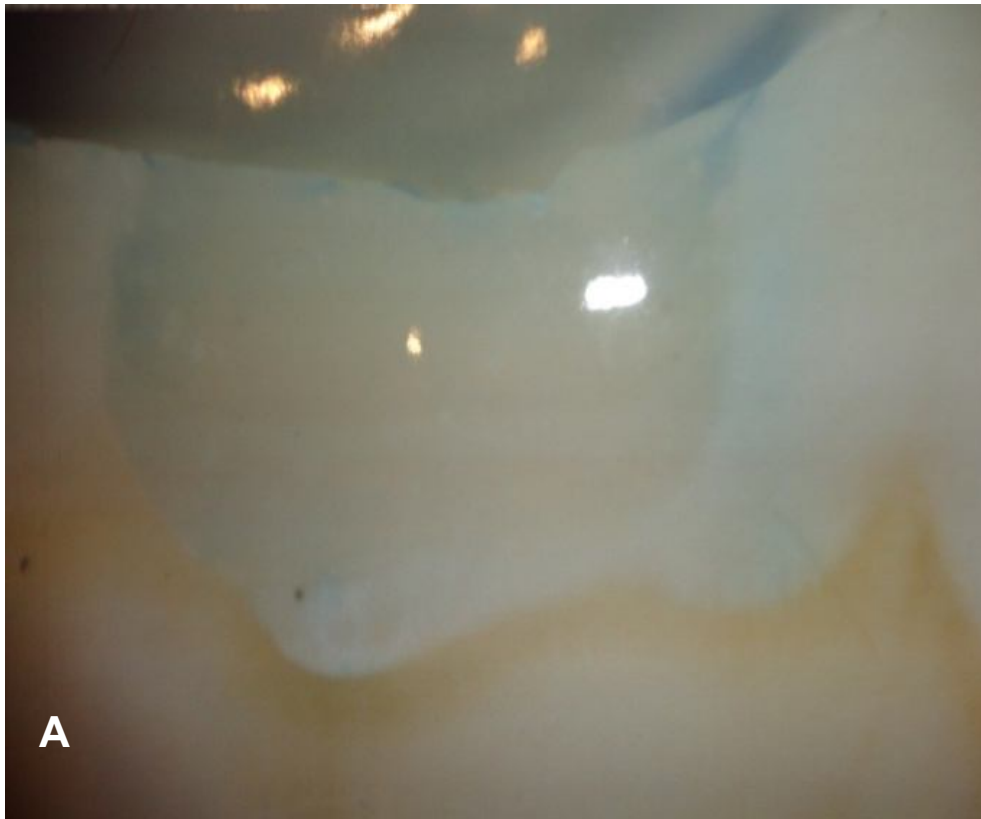


Fig. 1. Examples of the deep dye penetration (A) and superficial dye penetration (Б) in the filled teeth. $\times 6$.

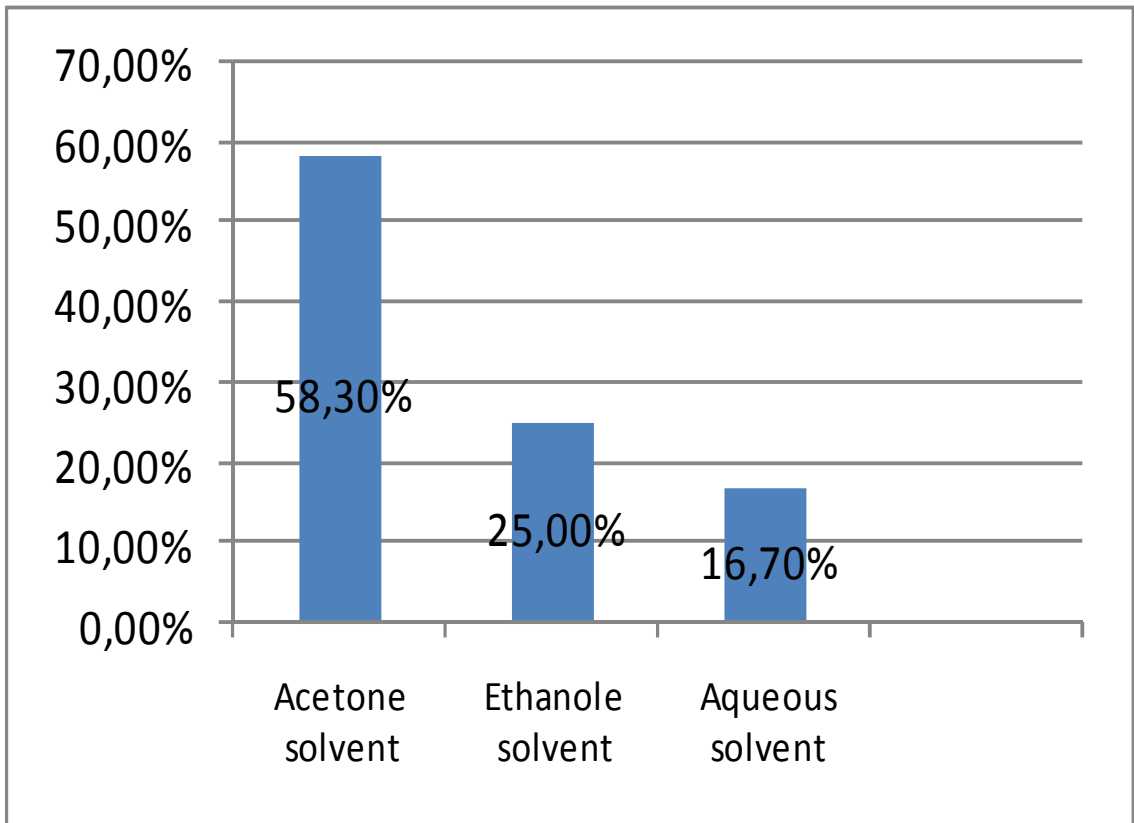


Fig. 2. The incidence (in %) of dye penetration in 19,7% humidity of the dentin in the cavity.

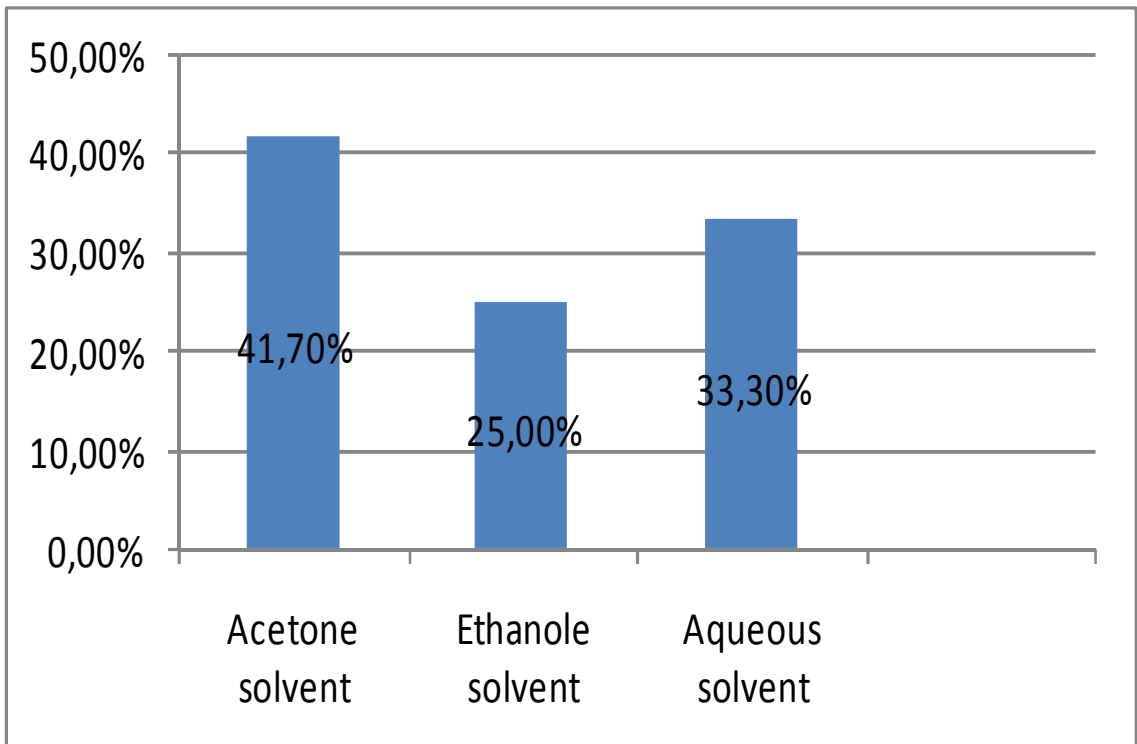


Fig. 3. The incidence (in %) of dye penetration in 20,0% humidity of the dentin in the cavity.

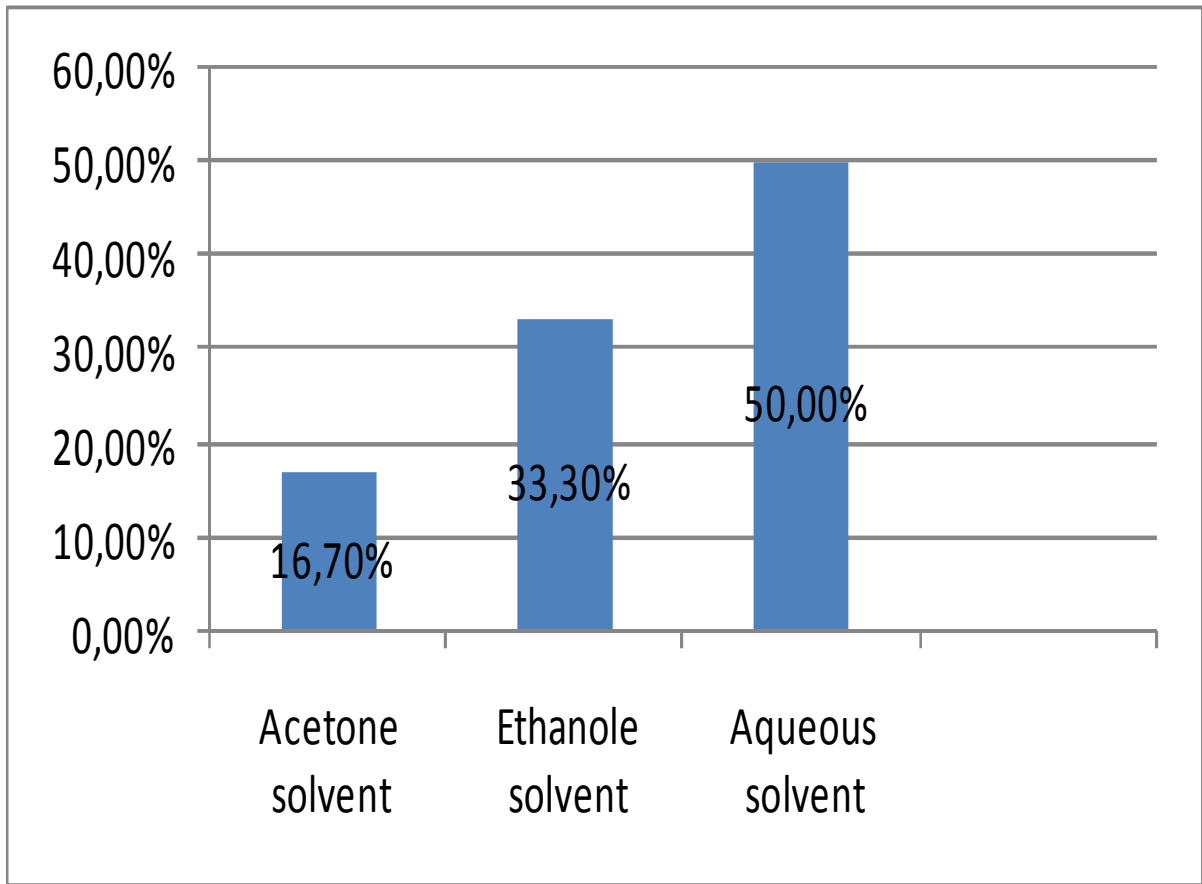


Fig. 4. The incidence (in %) of dye penetration in 20,3% humidity of the dentin in the cavity.

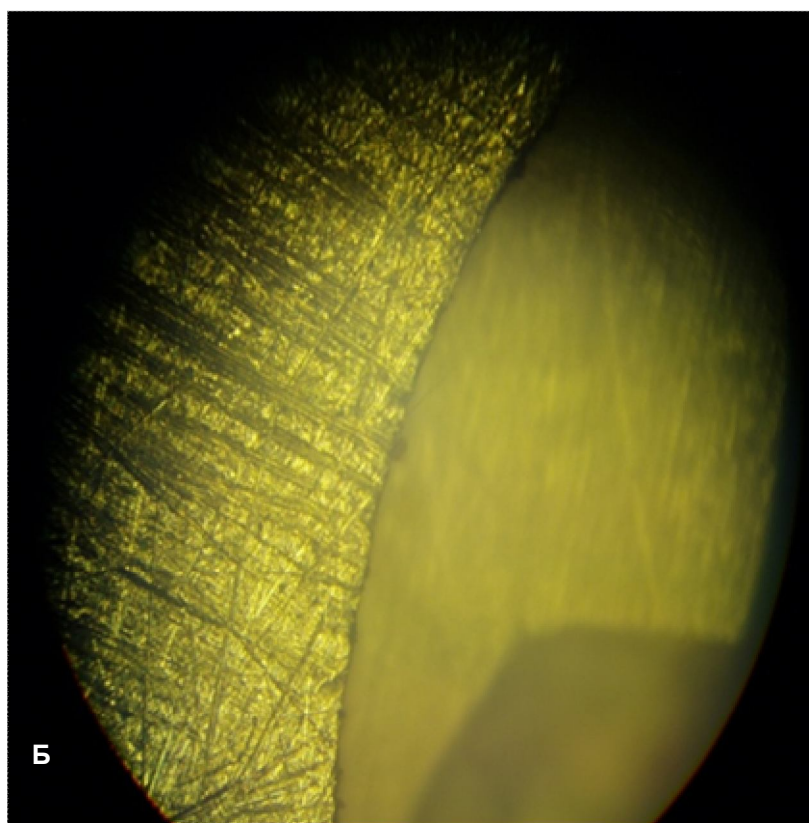
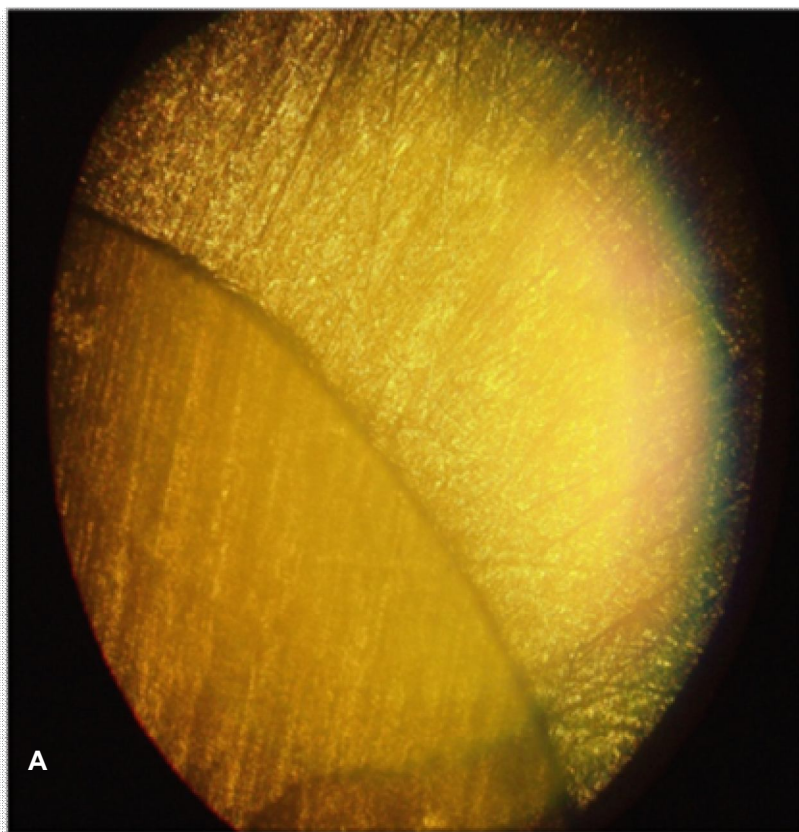


Fig. 5. Character of the connection between the adhesive system and the cavity dentin with the humidity of 19,7% (A) and 20,3% (B). $\times 200$.

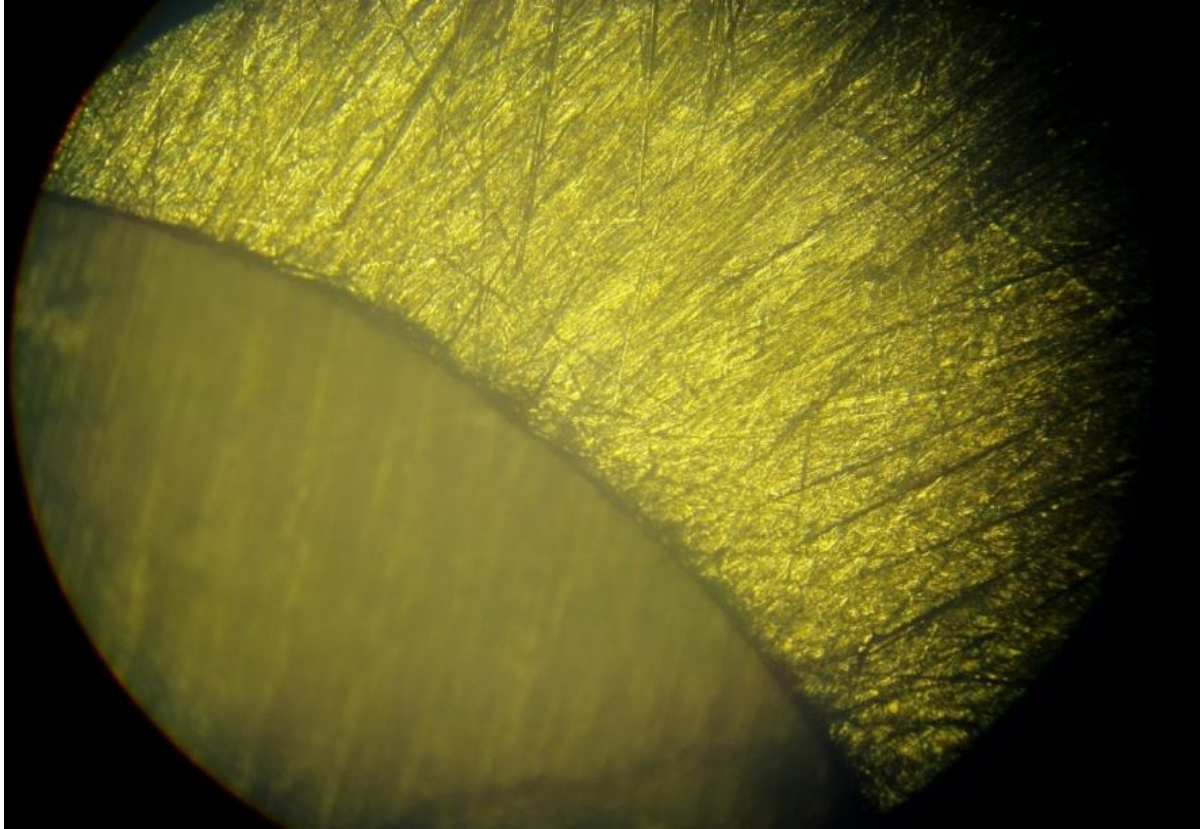


Fig. 6. . Character of the connection between the adhesive system and the cavity dentin with the humidity of 20,0%. $\times 200$.

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