

Chlorhexidine, Effects in Application to Hybrid Layers

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Abstract : The hybrid layer, the way it is created and how it is protected against degradation over time, is the key to the clinical success of a composite restoration. The composite supports the dentinal structure exactly with the realized surface of microretention. Thus, this surface is in direct proportion to its size versus the duration of clinical use of composite dental restoration. Micro-retention occurs between dentin or acidified enamel and adhesive resin extensions versus pre-prepared spaces, such as hollow dentinal tubules. The way the adhesive resin binds to the acidified dentinal structure depends on the physical or chemical factors of this interrelationship between two structures with very different characteristics. During the acidification process, a precursor to the placement of the adhesive resin layer, activation of metalloproteinases of dental origin occurs, enzymes which are responsible for the degradation of the hybrid layer. These enzymes have expressed activity depending on the presence of Zn²⁺ or Ca²⁺ ions. There are several ways to inhibit these enzymes, and consequently, there are several ways to inhibit the degradation process of the hybrid layer. The study aims to evaluate chlorhexidine as a solution element, inhibitor of dentin activated metalloproteinases, as a result of the application of acidification. This study aims to look at this solution in advantage or contraindication theories, already published in the literature.

Keywords : hybrid layer, chlorhexidine, degradation, application

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