

PhD in Clinical Medicine and Public Health

Research Area: Clinical Dentistry

Title: Studies on collagen stabilization of caries-affected dentin

Caries-affected dentin is characterized by a partial decalcification, sound collagen fibres, living odontoblastic process and is physiologically recalcifiable. Treatment typically involves remineralization of caries-affected dentin. Several biomimetic materials and analogues of noncollagenous proteins have been assessed for clinical application, yet the results of these studies remain unsatisfactory, being the most compelling problem the hybrid layer resin-dentin and the limited durability of the dental restorations.

Is it well established that collagen organization in extracellular matrix is critical for mineralization. The aim of this study is to improve the mechanical properties of extracellular matrix, by means of the stabilization of collagen with appropriate external agents for use as a pre-treatment step in caries-affected dentin clinical approaches.

Keywords: caries-affected dentin, remineralization, collagen

Supervisor: Santiago González López

Start Year: 2016