Silanes and other nanocoatings in dentistry

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Abstract: Silanes are a class of commonly used coupling agents in dentistry, particularly for implants and ceramic materials due to the nano-chemistry reacted on the surface. Such a modification of surface has been proved in terms of adhesion science and used clinically, such as to increase the adhesion strength in resin-Titanium and resin-Zirconia. However, the clear understanding of the priming mechanism is still lacked, also the clinical silanes could easily be attacked by water. Therefore, various attempts has been done in our group at The University of Hong Kong recently, trying to improve and understand the dental adhesion using silanes. Furthermore, other coupling agents are also being investigated. In this presentation, some of the recent findings related to the silanes and coupling agents would be discussed, and some biological aspects would be covered as well.