

Comparison Between Nano Composite and Pits and Fissure Sealant: In Vitro Study

Authors : Osama Safwat Mohamed

Abstract : Pits and fissures dental caries can be prevented using sealant material. This study aimed to compare the microleakage and interfacial morphology of flowable nanocomposites and conventional pit and fissure sealants. 60 extracted intact and caries-free permanent mandibular third molars. The teeth were randomly divided into three groups (n = 20) according to the material used for pit and fissure sealant. Group I: Unfilled resin-based pits and fissure sealant, Group II: Unfilled resin-based pits and fissure sealant with bond and Group III: Nano flowable composite resin with bond. The results showed that nano-flowable composite was significantly better than the conventional sealants groups $p = 0.000$. As well there was better as well, there were gaps between sealants and the tooth surfaces in groups I and II, but for group III, there was close contact between the nano-flowable composite and tooth surfaces. It was concluded that nano-flowable composite showed better microleakage and interfacial morphology results than conventional pits and fissure sealant and offered promising results at the fissure sealing.

Keywords : pits and fissures, Sealant, nanocomposite, dental caries

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