



New CMCR Agent: Papacarie

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Chemomechanical caries removal is a noninvasive method of caries removal using a chemical agent and hand instruments. In the current scenario, the main focus is on maximum preservation of tooth structure. CMCR is based on the concepts of minimal invasive dentistry (MID). The main objective of this method is to eliminate the infected soft dentin, leaving the affected dentin, which can be easily remineralized [1].

Papacarie containing papain gel is first introduced in Brazil, 2003 as CMCR agent and patented by ANVISA in Brazil. Papain gel extracted from the adult green papaya is one of the main component of this product. Chloramine and Toluidine Blue are the other two components. Papain gel acts as proteolytic enzyme on infected tissue with anti-inflammatory and bactericide characteristics. It's main action only on infected tissue which lacks the alpha-1-antitrypsin (plasmatic protease inhibitor). So, In the absence of protease inhibitor in infected tissues allows papain gel to break and dissolution of partially degraded collagen [2,3]. This partially degraded collagen in carious lesion is chlorinated by the chloramines. It's affect the quaternary and secondary structure of collagen, by disrupting bonding between collagen fibers and thus facilitating the easy carious tissue removal. Toluidine blue act as photosensitive pigment that fixes into the bacterial membrane [4].

Advantages

1. It is a biocompatible gel.
2. No smear layer formation.
3. It's act only on infected dentinal tissue.
4. Less chances of pulpal exposure.
5. Healthy tissues are unaffected.
6. Antimicrobial action, mainly on *S. mutans* and *Lactobacillus*.
7. Used in phobic, anxious and special health care need children.
8. It is also used for enamel surface deproteinization.
9. Easy to apply and fast acting.
10. Not required any special instruments

Source of Support

Nil.

Conflict of Interest

None.

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