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CONTROLLING CARIOUS LESIONS IN PRIMARY TEETH: A CHALLENGE

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The prevalence of dental caries in primary teeth in most world countries is very high. That is strange, to say the least, as dental caries is a preventable disease. Why is a preventable disease so prevalent?

The answer is related, among others, to socio-economic status, level of education of the mother and cultural habits of the children. What research has told us is that placing restorations is not the answer to the abundance of cavities present in these children. Dental caries is a sugar-driven biofilm-related disease that can be controlled through following a healthy life-style. Removal of dental biofilm regularly from tooth surfaces is known to reduce the prevalence of dental carious lesions. Controlling the dental biofilm is, therefore, paramount important in the fight against the development of carious lesions. This implies that removal of biofilm from within cavities can be a successful treatment in controlling carious lesion progression. Suitable cavities should be accessible, the pulp be healthy and symptomless and the biofilm should be removed daily. That requires understanding, practice, assistance from parents and support from dentists. This treatment has been researched and found having merits but more studies are needed to fully understand when and when not to apply this cavity treatment in children's primary teeth.

Over the last decade, many studies have been published that have investigated the efficacy and effectiveness of Silver Diamine Fluoride solution. The silver having a bactericide action and leaving a metal layer on the floor of a cavity appears to stop the caries process in many cases. Obviously, daily biofilm control by the child and/or parents is required. The cavity turns black and that can be a distraction for some children but most accept the blackish colour. Both minimal intervention treatments are performed without local anaesthesia and are considered child-friendly. That reduces dental anxiety and discomfort which might make the child willingly to work hard to remove biofilm from healthy and decayed tooth surfaces. If these two treatments are not acceptable, a next option is the placement of a Hall-crown. Without any removal of carious tissue, this prefabricated crown is slipped over the decayed tooth and bitten in its place. It will take days before a proper occlusion is obtained but research has shown that children apparently are satisfied with this treatment.

If these 3 minimal intervention treatments are not indicated, one can resort to restorative care. An indication for placing a restoration is a (very) small cavity that cannot be kept biofilm clean or an inaccessible tooth cavity. As there is no difference in restoration survival percentages between traditional and ART high-viscosity glass-ionomer restorations, the latter is preferred as children are less dental anxious after a treatment with the ART-method than with restorations produced traditionally.

Now we are back at the main treatment that we, dentists, thought could stop all those cavities in children; the amalgam or composite restoration. Whilst being the first and only treatment for decades, traditional restorative treatment is now considered the treatment of last resort. This palette of treatment options should be taught at Dental Schools. But the most important treatment that undergraduate students should learn and practice is: how to guide children, their parents/ caregivers, grandparents in keeping healthy erupted primary teeth healthy until exfoliation. Dental caries is preventable!!

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