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Orthodontic band and modified glass ionomer cement: An interim alternative to treat sever molar hypomineralization

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Molar Hypomineralization (MH) is an enamel defects characterized by demarcated opacities mainly affecting 6-year molars of about 1-in-6 children worldwide. Affected molars have greater susceptibility to post eruptive breakdown, extensive caries and in severe cases, are difficult to restore. When MH molars present severe crown destruction, it is necessary to perform an intermediate restoration to preserve the remaining dental structure to maintain occlusion, proper hygiene and periodontal health. Traditional restorations are not suggested in case of severe MH molars. Amalgam requires excessive removal of dental tissue to obtain adequate mechanical retention, leaving the tooth structurally weak and prone to fracture. Resins also present problems since their adhesion to MH-affected enamel is inadequate, favoring microfiltration, which may result in restoration failure. Preformed metallic crowns have been suggested as more definitive option; however, periodontal problems associated with molars restored with this technique discourage their use as permanent restoration. In these difficult clinical conditions, Glass Ionomer Cement (GIC) seems to be the restorative material of choice for the interim treatment of severe MH molars due to its favorable adhesive properties to enamel/dentin. However, in extensive restorations, GIC usually fractures, leading to retreatment, thus increasing the occurrence of painful clinical experiences and pulpal damage. Here we propose a novel approach to improve the robustness of GIC. After filling the MH molar with modified GIC, an orthodontic band is fitted as a strong metallic casing preserving gingival/pulpal health and tooth structure for at least 18 months.

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