



MOLAR INCISOR HYPOMINERALISATION (MIH) IN PEDIATRIC DENTISTRY: DIAGNOSIS, PREVENTION AND MANAGEMENT

S. Sparapano, F. Fuggiano, D. Capodiferro, F. Carminucci, P. De Sena, D. Giannoccaro, R. Montanaro, A. Tarullo, A. Partipilo, G. Caruso, M. Corsalini, L. Limongelli

INTRODUCTION: Molar-Incisor Hypomineralization (MIH) is a systemic qualitative enamel defect affecting one to four permanent first molars, and frequently involving the permanent incisors. Affected teeth exhibit hypomineralized enamel, predisposing them to post-eruptive enamel breakdown (PEB), rapid caries progression, and severe hypersensitivity.

Etiology : MIH has a multifactorial origin and is associated with a systemic disturbance occurring during enamel maturation, including prenatal, perinatal, and early childhood conditions (e.g., high fever, severe respiratory illnesses, and early antibiotic exposure).

MATERIALS AND METHODS: A narrative literature review was conducted based on the diagnostic and clinical management criteria established by the EAPD (European Academy of Paediatric Dentistry). Preventive and therapeutic modalities were evaluated for managing hypersensitivity, remineralizing hypomineralized enamel, and restoring aesthetic and functional integrity.

RESULTS:

- 1. Diagnosis & Risk Assessment :** Early identification of demarcated enamel opacities (ranging from white-cream to yellow-brown) at the time of molar eruption is essential to prevent post-eruptive enamel breakdown (PEB) and to assess the patient's individual caries risk.
- 2. Hypersensitivity Management:** Topical application of bioactive agents, including Sodium Fluoride varnish and casein Phosphopeptide-Amorphous Calcium Phosphate (CPP-ACP) helps reduce hypersensitivity and facilitates oral hygiene procedures.
- 3. Tailored Restorative Treatment:** According to lesion severity, treatment may include pit-and fissure sealants for mild cases, composite resin restorations for localized defects, or preformed stainless steel / zirconia crowns for severe enamel breakdown to preserve tooth integrity.

DISCUSSION: Early diagnosis and timely management of MIH in pediatric patients is critical to prevent rapid secondary caries development, alleviate painful hypersensitivity, and enhance oral health-related quality of life. Implementing a personalized, multidisciplinary preventive protocol enables structural tooth preservation while reducing dental fear and anxiety in young patients.



KEY REFERENCES

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