

## **Molar Incisor Hypomineralization (MIH): Early Diagnosis, Prompt Treatment**

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### **“A Stich in Time Saves Nine”**

Developmental tooth defects of enamel are common findings in our day to day clinical practice. Molar incisor hypomineralization (MIH) contributes to one of the major developmental defects of enamel affecting mainly one or more permanent first molars and frequently incisors too. The clinical features for MIH are demarcated opacities, post-eruptive breakdown and atypical restorations for permanent molars and incisors. Hypomineralization can also be observed in second primary molars, when sharing same etiological factors with permanent dentition, then the condition is termed as Deciduous Molar Hypomineralization (DMH).

Overview of literature reveals that the definite etiology for MIH is still unclear. However, various studies suggest it to be multifactorial or the synergistic effect of systemic/local conditions, pre and post-natal conditions, or genetic and environmental factors. In a nutshell, MIH is attributed to disruption of ameloblastic activity during the transitional and maturational stages of amelogenesis. Thus, any condition resulting in the insult of the ameloblast during the period of molar and incisor mineralization in the child's life may lead to MIH. A substantial number of studies have been reported worldwide with a huge variation in prevalence from 2.8 % to 40.2 %. This difference may be due to selection of different cohort, ethnicity and sample size of the study population.

World Health Organization oral health factsheet April 2012, stated that worldwide 60 - 90% of school children and nearly 100% of adults have dental cavities and dental cavities can be prevented by maintaining a constant low level of fluoride in the oral cavity. The systemic review by Kassebaum NJ, *et al.* [1] showed that in 2010 untreated caries in permanent teeth was the most prevalent condition worldwide, affecting 2.4 billion people and untreated caries in deciduous teeth was the 10th-most prevalent condition, affecting 621 million children worldwide.

MIH and DMH are frequently associated with dental decay demanding treatments which range from simple restorations to complex restorative procedures and even extraction of the tooth. The porous and fragile hypomineralized enamel surface fractures under the occlusal load forming a niche for bacterial adhesion and eventually caries progression. These defects cannot be overlooked especially when the global burden of dental caries is increasing alarmingly due to growing consumption of sugar and inadequate exposure to fluorides in the developing countries. We, the dentists, are witness to the commencement of the Era of Minimal Invasive Dentistry. Techniques such as resin infiltration, pit and fissure sealants, and application of casein phosphopeptide – amorphous calcium phosphate (CPP-ACP) with or without fluoride should be practiced thoroughly to reinforce the fragile enamel, preventing post-eruption breakdown and caries development. Therefore, the protocol and awareness for early diagnosis and prompt treatment of MIH among dentists and healthcare workers will not only reduce the global burden of dental caries in the long term, but will also reduce the undue expenditure of valuable resources of our countries which can be redirected and channelized in building a better nation and the world [2-6].

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