

4052 Caries in Primary Teeth and Defects in Their Permanent Successors

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Objective: To investigate the relationship between the presence of developmental defects on enamel (DDE) on the permanent teeth and the caries status of their predecessor primary teeth in a cohort of Chinese children. **Methods:** This study was conducted in a non-fluoridated area in Southern China. The sample was 288 children whose caries status of their primary teeth at age 3 to 7 years was recorded in a previous study. About 85% of these children had caries in their primary teeth and the mean dmfs score was around 10. Over 80% of the caries were untreated. A follow-up examination of the permanent teeth of these children was conducted in 2001 when they were 11-12 years olds. The examination was conducted in their school using mouth-mirrors, explorers and an intra-oral fibre-optic light. Clinical photographs of the anterior teeth were taken. Presence of DDE was determined by consensus of two trained dentists and recorded according to the modified DDE Index for each surface of the permanent incisors, canines and premolars. **Results:** 1,109 permanent teeth were examined in the first 66 children who were followed up. Overall, 16% of the teeth had one or more DDE. The vast majority of the defects were found on the buccal surfaces and about 80% of the defects were diffused opacities. DDE was found on 13% of the permanent teeth whose predecessor had no caries whereas 29% of the permanent teeth whose predecessor had caries at age 3 years had one or more DDE (Chi-square test: $df=1108$, $p<0.001$). It was also found that the earlier the primary teeth developed caries, higher the chance their successor permanent teeth developed enamel defects. **Conclusion:** The preliminary findings of this study showed that there was a relationship between caries in primary teeth and the presence of DDE in their permanent successors.

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