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Abstracts

Contents

	Session 1
181	Microbiology
	Session 2
192	Epidemiology
	Session 3
202	Clinical Studies
	Session 4
212	De- and Re-Mineralization
	Session 5
222	Clinical Studies
	Session 6
234	Diagnostics: Clinical and Laboratory-Based
	Session 7
245	Erosion: Clinical and Laboratory-Based Studies
	Session 8
256	Fluoride and Microbiology
266	Author Index

from $K = 0.75$ at D_1 to $K = 0.95$ at D_3 and $K = 0.73$ at D_1 to $K = 0.85$ at D_3 , respectively.

In conclusion meticulous visual examination (ICDAS) should be supported by radiographs for the detection of dentinal proximal caries in primary molars. The LF pen and TTS also provide additional diagnostic information at both thresholds.

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128

Caries Prevalence in Children with and without MIH: A Case Control Study

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The aim of this study was to compare the caries prevalence of children who presented with MIH with those who did not. A case control-study was designed in which 130 children aged 7–13 years old diagnosed as presenting MIH composed the cases and were matched with 130 children without the condition (controls) considering age, gender and school. Dental caries and MIH were assessed using the WHO and EAPD criteria, respectively, by one trained and calibrated examiner. Caries prevalence and the mean dmft/DMFT were calculated for both groups. An additional analysis was performed considering only the first permanent molars of cases and controls. Wilcoxon signed ranks test was used to determine differences between mean dmft/DMFT of both groups. McNemar test was performed to verify the effect of MIH in relation to the occurrence of caries lesions. Finally, odds ratio were performed in order to verify if MIH was a risk factor to dental caries development. The mean age of the children was 8.33 ± 1.26 years. Regarding the severity of MIH, 70.76% of the cases were classified as presenting mild, 8.46% moderate and 20.76% severe. The mean dmft/DMFT for cases and controls were $1.23 \pm 1.99/0.45 \pm 0.90$ and $1.71 \pm 2.22/0.07 \pm 0.25$, respectively, being statistically different only for DMFT ($p < 0.001$). Enamel and dentine caries prevalence for the 1st permanent molars were 48.46% and 23.08% (cases), and 28.46% and 5.38% (controls). Presence of MIH increased the risk of enamel [OR 2.53 (CI 1.44–4.43), $p = 0.0008$] and dentine caries lesions development [OR 8.67 (CI 2.62–28.63), $p < 0.0001$]. In conclusion children with MIH presented higher caries prevalence for the permanent dentition in comparison to those without the condition. MIH maybe considered a risk factor for caries development.

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129

Validation of the Visible Occlusal Plaque Index Estimating Caries Activity

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The present study appraises the construct and concurrent validity of the Visible Occlusal Plaque Index (VOPI) as a measure of the association between dental biofilm and caries occurrence and activity in permanent molars. A total of 618 10–15 year old Brazilian adolescents were included in the study. Data on adolescents' socio-demographic and oral health determinants were collected. The occurrence and distribution of occlusal plaque on first and second permanent molars were mapped and recorded at individual surface-anatomical sites of the groove-fossa-system. Caries activity and severity was assessed at surface level for the permanent dentition after plaque removal and air drying. On the occlusal surfaces of the molars, the occurrence and localization of caries were also registered at individual anatomical sites of the groove-fossa system. Caries outcomes were presence of active or inactive occlusal lesions or sound occlusal surfaces. At adolescent's level, the results showed that the higher the plaque score, the higher the caries activity on occlusal surfaces ($p < 0.001$, Fisher exact test). At surface-anatomical site level, sites with no or thin plaque had significantly greater chance of being sound rather than carious (RR range 1.9–22.4). Also, sites with no or thin plaque had a substantial chance of having inactive lesions whereas sites with thick or heavy plaque had a considerable risk of having active lesions (RR range 1.0–7.3). Additional GEE analysis showed that different scores of the Visible Occlusal Plaque Index were the most influential determinant for sound occlusal surfaces ($p < 0.001$), for inactive ($p = 0.018$) and for active occlusal lesions ($p < 0.001$). In conclusion, the Visible Occlusal Plaque Index, has construct and concurrent validity being therefore recommended as an additional tool to estimate caries activity and to support treatment decisions in daily practice.

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