

The Micrograph image of early experimental dental caries in permanent teeth

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20427798&lokasi=lokal>

Abstrak

Study on the structure and the mechanism of the formation of early caries is an important premise for evaluating the caries-preventive methods. Objective: To describe micrograph images of experimental carious lesions at early stage in permanent teeth in Vietnamese. Methods: There were 60 permanent extracted premolars from patients aged 18-25 used in this study. After cleaning and removing the remaining soft tissue, each tooth was painted with acid-resistant coating leaving an enamel window of approximately $1 \times 1\text{mm}^2$ on the buccal surface. The artificial carious lesion was performed by soaking the teeth for 96 hours in the demineralization solution and evaluated using the ICDAS criteria. The tooth specimen was observed under a scanning electronic microscope (SEM). Results: The experiment resulted 66.7% of ICDAS 1 and 33.3% ICDAS 2 carious lesions. The mean depth and area of the lesions were $107.6\mu\text{m}$ and $1.14\mu\text{m}^2$, respectively. The difference in depth and area of lesions between group ICDAS 1 and ICDAS 2 was significantly statistical with $p=0.0001$. The micrographs showed that after being soaked in demineralization solution, enamel surface became rough, enamel rods lost the minerals in the body more than in the sheath, cross-sectional images showed widened gaps between the rods due to demineralization. There was a difference in demineralization degree between group ICDAS 1 and 2. Conclusion: The image of carious lesions was gained after the teeth were soaked in demineralization solution. It showed different characteristics of the resulted lesions based on ICDAS criteria for early carious lesions using scanning electron microscope.