

Dental Erosion

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A novel animal model of extrinsic dental erosion has been established. The model is suited for studying the progression and treatment of dental erosion.

Dental erosion is common, with a reported prevalence in permanent teeth of 30% worldwide. Experiments on dental erosion with human patients are unethical because of the irreversible loss of dental hard tissues when exposed to acids.

The need for a standardized animal model for studying dental erosion has been emphasised for many years. With this new animal model, erosive lesions of varying severity can be created and analysed using precision techniques. The mice model creates an oral environment that resembles the human mouth, giving new knowledge and improving our understanding of the dental erosion.

In the current study we evaluated transverse sections of mouse molars, after exposure to citric and phosphoric acids, using SEM (Figure 1). The method lends itself to further studies on the influence of saliva on dental erosions and on the relevant preventive and treatment strategies.

This study has been collaboration between the Institutes of Clinical Dentistry and Oral Biology, at the University of Oslo, Departments of Medical Biochemistry and Maxillofacial Surgery at Oslo University Hospital and NIOM.

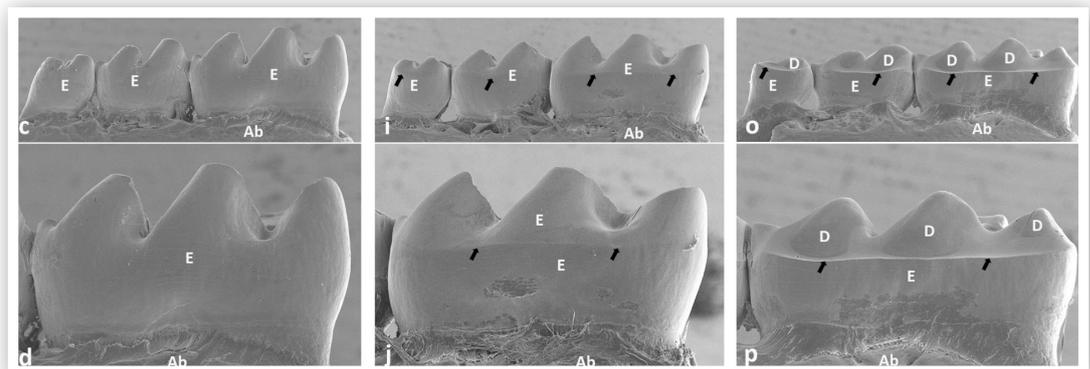


Figure 1. Scanning electron microscopy images of mandibular molars showing the lingual view of unexposed teeth (c and d), and teeth from animals exposed to sports drink containing citric acid (i and j) and beverage containing phosphoric acid (o and p). The step (black arrow) indicates the border between the unaffected cervical part and the affected occlusal part of the tooth. E = enamel, D = dentin, Ab = alveolar bone.

REFERENCE:

Tulek A, Saeed M, Mulic A, Stenhagen KR, Utheim TP, Galtung HK, Khuu C, Nirvani M, Kristiansen MS, Sehic A. New Animal Model of Extrinsic Dental Erosion – Erosive Effect on the Mouse Molar Teeth Arch Oral Biol. 2018 Aug 24; 96:137-145.

A new standardized mouse model is established for studying extrinsic dental erosion.

This model gives deeper insight into risk indicators and preventive treatments for dental erosion.

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Dementia is due to neurodegenerative brain diseases that occur more frequently at increasing age

Dentists' education and challenging tasks constitute a cognitive reserve that, together with continued physical and mental training after working age, can, to some extent, prevent or delay dementia

Dementia. Are dentists protected?

Nils Jacobsen
Professor emeritus



Dementia is a common term for diseases of the brain expressed as the loss of cognitive abilities and activities of daily living. The most frequent reason is Alzheimer's disease, followed by vascular dementia, dementia with Lewy bodies and mixed types. The number of persons with dementia is increasing due to the aging population in the developed countries, as the risk of dementia is higher in the very old age groups.

In addition to genetic components, research indicates that well known risk factors for heart disease also are of significance in the development of dementia.

On the other hand, educational length and demanding tasks may be protective factors. Data derived from epidemiological and interventional studies indicate that physical activity and all kinds of mental challenges are of value to preserve cognitive function at older age.

Norwegian dentists may live up to 30 years after they retire, facing age-derived increased risk of dementia. No data are available concerning the occurrence of dementia in this group. However, retired dentists may profit from their education and demanding tasks during working age.

Moreover, there are also reasons to claim that continued physical activity and mental challenges beyond retiring age are important factors to preserve an intact cognitive function.

REFERENCE:

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Nor Tannlegeforen Tid 2018; 118: 514–9

Read the article here: <http://www.tannlegetidende.no/i/2018/7/d2e446>

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