Abstract till IAPD 2019

Defect root cementum of primary teeth in children with x-linked hypophosphatemia


Background
The National Oral Disability Centre for Rare Disorders in Jönköping, Sweden, receives consultations about orofacial consequences of rare disorders from professionals as well as patients and their relatives. X-linked hypophosphatemia (XLH) is a rare disorder with low phosphate levels affecting the mineralization of bone and teeth. The main dental complications are pulpal infections and abscesses attributed to large pulpal chambers and defective dentine. Increased risk for periodontal disease has also been described. In 2017, a French research group presented defect root cementum of permanent teeth in adults with XLH as a likely etiology behind periodontal attachment loss (Biosse Duplan et al 2017). No reports describing cementum defects in primary teeth in children with XLH have to this date been published.

Aim
To retrospectively check for root cementum defects described in histological analyses of extracted primary teeth in children with XLH.

Design
Ten children with confirmed XLH were identified among the consultations to the National Oral Disability Centre from different parts of Sweden during 2004 to 2018. Five children had had a primary tooth sent for biopsy diagnosis. The results of these have been retrospectively studied with focus on the condition of the root cementum.

Results
In one analysis, the oldest, the root cementum is not mentioned. The other four biopsy diagnoses describe teeth with globular dentin, typical for XLH. They also reveal aplastic and/or hypoplastic root cementum.

Conclusions
In addition to the well-known risk for dental abscesses due to defect dentine, children with XLH may also have an increased risk for early periodontal problems because of dysplastic root cementum. Thus, preventive measures should focus both on keeping the enamel intact and on periodontal health. Also, even if the XLH diagnosis is medically and/or genetically verified, there is a value for individuals with XLH to have extracted or lost primary or permanent teeth sent for biopsy diagnoses of dentin as well as root cementum.

Basic References