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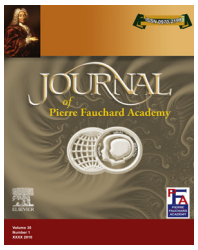

Incomplete mamelon fusion – A rare developmental anomaly

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ABSTRACT

Dental anomalies affect the shape, size, structure and number of the teeth. Any disturbance, during the developmental stage of a tooth encountered, due to a syndrome, exposure to chemicals, drugs, local physical agents, genetic or an isolated anomaly may be detrimental to the tooth. Lobes are the building blocks of tooth crowns. The labial aspect of a permanent maxillary central incisor develops by a union of three lobes, visible as protuberances on the incisal edge, and are termed mamelons. We present a rare developmental anomaly wherein the distal lobe of the central incisor had incompletely fused with the central lobe forming a deep gaping fissure on the coronal aspect, thus predisposing it to dental caries. The case report discusses the identification, etiology, management and differential diagnosis of such a case.

1. Introduction

Developmental disturbances of teeth are reported in about 10% of children in industrialized nations whereas in developing countries, the prevalence ranges from 15–20%.[1] A prospective clinical-cum-radiographic study found just 350 dental anomalies on 20,182 Indian patients over the age of 14 years.[2]

The labial lobes in newly erupted permanent incisors present as rounded protuberances called mamelons. Shpack et al.[3] reported a labial cervical vertical groove [LCVG] as an extension of mamelon groove which continued beyond the cemento-enamel junction into the root. To the best of our knowledge, this is the first case highlighting incomplete fusion of mamelons with the defect extending from incisal aspect to the area coronal to the free gingival margin.

2. Case report

A 7-year old boy reported pain in the upper right tooth. Oral examination revealed a retained primary maxillary right central incisor [tooth 51-FDI notation], the root apex of which had fenestrated the labial alveolar plate. The permanent maxillary right central incisor [tooth 11-FDI notation] was distally displaced by the tooth 51. The permanent maxillary left central incisor [tooth 21-FDI notation] revealed a deep

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Fig. 1 – Incomplete lobar fusion of tooth 21 and fenestrated tooth 51.

fissure on the labial aspect corresponding to the junction of middle and distal labial lobes [Fig. 1]. There was no significant developmental or medical history.

A radiograph revealed an irregular radiolucency, restricted to the crown of tooth 21 along with a retained tooth 51 [Fig. 2]. A palatal view revealed a groove at the site of fusion of the two lobes extending till the mid-coronal level [Fig. 3]. Examination also showed a 3.5 mm pocket on the buccal aspect of the tooth 21, likely a pseudo-pocket related to the erupting tooth 21 [Fig. 4]. A glass ionomer cavity liner [3M, ESPE] was applied on the exposed dentin of the labial fissure of tooth 21 and the tooth restored with a flowable composite [Filtek Z350, 3M, ESPE – Fig. 5].

Fig. 2 – A radiograph showing the coronal developmental defect in tooth 21.

Fig. 3 – Intra-oral palatal view.

Fig. 4 – Pseudo-pocket on the buccal aspect of tooth 21.

3. Discussion

Enamel defects primarily occur due to systemic factors [birth-related trauma; malnutrition; metabolic disorders] or local factors [local infection; local acute mechanical trauma]. The enamel defect due to systemic diseases is bilaterally

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