CASE REPORT

A Case of Dens in Dente in Maxillary Lateral Incisor

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Abstract

Dens invaginatus results from an infolding of the outer surface of a tooth. It is the embryological anomaly that results in invagination of an amelodental structure within the pulp. On radiographic evaluation, they sometimes give the appearance of the tooth within a tooth. Hence the name “Dens in Dente. These defects are found in maxillary lateral incisors or in maxillary central incisors. The clinical importance of dens invaginatus results from the risk of pulpal disease. So, all clinicians should be aware of this anomaly. The aim of this article is to report a case of dens in dente in right maxillary lateral incisor which is an incidental finding.


Key words: Dens invaginatus, dens in dente, maxillary lateral incisor

Introduction

Dens invaginatus is a rare malformation of teeth, showing a broad spectrum of morphological variations.1 The affected teeth radiographically show an infolding of enamel and dentine which may extend deep into the pulp cavity and into the root and sometimes even reach the root apex. It was first described by Ploquet in 1794.2

Various terminologies have been used to describe this condition. According to Sutalo et al. (2004), in 1897 Busch first suggested the use of ‘dens in dente’ which implies the radiographic appearance of a tooth within a tooth. However, Hunter (1951) suggested the term ‘dilated composite odontome’ which infers an abnormal dilatation of the dental papilla whilst Colby (1956) recommended the use of ‘gestant anomaly’. Of the various terms, dens invaginatus would appear to be the most appropriate as it reflects the infolding of the outer portion (enamel) into the inner portion (dentine) with the formation of a pocket or dead space.3 The teeth most affected are maxillary lateral incisors and bilateral occurrence is not uncommon and occurs in 43% of all cases.2

Case Report

A female patient aged 22 yrs came to our department with the chief complaint of pain in the
upper front teeth region since 1 week. Pain was sudden in onset, continuous, localized, pricking type, severe in intensity, which aggravates on taking hot & cold beverages & relieved on taking rest. Patient gave history of similar recurring pain in the same area since 2 months which subsided by itself.

On extra oral examination solitary right submandibular lymph node was palpable, tender, mobile, measuring about 1 x 1cm & soft in consistency. On intraoral examination deep class III caries was noted with respect to 12 and tooth was tender on vertical percussion (Fig. 1).

A provisional diagnosis of acute apical periodontitis was given with relation to 12. Intra oral periapical radiograph (Fig. 2) revealed radiolucency involving enamel, dentine & pulp with relation to 12 with enamel invagination from palatal pit into pulp chamber, & slight widening of periodontal ligament space at apex was seen with intact lamina dura.

**Figure 1.** Shows deep class III caries with respect to right lateral incisor

Hence final diagnosis of acute apical periodontitis with relation to 12 due to dens in dente was given & patient was referred to department of endodontics for endodontic treatment of the same.

**Figure 2.** Shows radiolucency involving enamel, dentine & pulp with respect to right lateral incisor with enamel invagination from palatal pit into pulp chamber

**Discussion**

Dens invaginatus is due to anomalous tooth development during morphodifferentiation. It results from the invagination of the enamel during the soft tissue stage of development before the hard tissue mineralizes. Invaginations may originate in the coronal part of the tooth, or within the root.

The aetiology of dens invaginatus malformation is controversial and remains unclear. Most authors, consider dens invaginatus as a deep folding of the foramen coecum during tooth development which in some cases even may result in a second apical foramen (Schulze 1970).

Oehlers described dens in dente according to invagination degree in three forms:

- Type 1: an enamel-lined minor form occurs within the crown of the tooth and not extending beyond the cemento-enamel junction as seen in our case;
- Type 2: an enamel-lined form which invades the root as a blind sac and may communicate with the dental pulp;
- Type 3: a severe form which extends through the root and opens in the apical region without communicating with the pulp.

The radiographic examination shows a radiopaque invagination, equal to enamel in density, extending from the cingulum to a varying distance into the root. Sometimes, associated with periapical radiolucency associated with the affected tooth. The defects may vary in size and shape from a loop-like, pear-shaped or slightly radiolucent structure to severe form resembling a “tooth within a tooth”.

The diagnosis of dens invaginatus in most cases is detected by a chance on the radiograph, similarly in our case. Clinically, unusual crown morphology (‘dilated’, ‘peg-shaped’, ‘barrel-shaped’) or a deep foramen coecum may be important hints, but affected teeth also may show no clinical signs of the malformation.

The various treatment modalities include preventive and restorative treatment, root canal
treatment, endodontic surgery, intentional replantation and extraction.\textsuperscript{6,7}

**Conclusion**

The available evidence suggests that the condition is associated with an increased prevalence of pulp disease and that any necessary endodontic treatment may be difficult because of aberrant anatomy. Most of cases are incidental finding. This warrants thorough clinical with radiographic examination during routine dental check-up.

**References**


