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BILATERAL PREGNANT TEETH WITH RADICULAR CYST: A CASE REPORT

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Running Title: Dens invaginatus

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ABSTRACT:
Dens indente or Dens Invaginatus is a rare developmental anomaly of the tooth affecting mostly the permanent maxillary lateral incisors and less commonly the other permanent teeth and the primary dentition. Sometimes this invagination extends to pulp chamber resulting in pulpal and periapical pathology even in absence of dental caries. A radicular cyst is one of the furthermost everyday odontogenic cysts of the anterior maxilla, not regularly comprehended in youth. They are found mostly at the apices of the tooth, lateral surface of the roots and remains in the jaw after removal of the offending tooth. Here, we present a rare case of anomalous development of maxillary permanent lateral incisor with bilateral radicular cyst.

Keywords: dens in dente, radicular cyst, bilateral, pregnant tooth.

INTRODUCTION:

Dens in Dente (DID) is a rare developmental anomaly which is also called as “dilated composite odontome” or tooth within tooth. It is characterized by the in-folding or inversion of the enamel into the tooth structure, during the early stages of tooth bud formation [1, 2]. DID is commonly diagnosed as an incidental radiographic finding unless the patient presents with pain or swelling associated with the involved tooth. The incidence of DID is reported to range between 0.04% and 6% with a higher male predilection than females [3]. Clinically, they reveal a deep fissure or pit on the lingual surface of anterior teeth and an occlusal pit and a bulge on the posterior teeth. Radiographic examination is the most realistic way to diagnose such anomalies [1,4]. We present a rare case of bilateral radicular cyst with dens in dente in relation to lateral incisors of the maxilla.

CASE REPORT:

A thirty one year old male patient came to the department of oral medicine and radiology for a routine dental examination. Patient gave a

history of swelling on the maxillary anterior region before three months, for which he had taken medication and the swelling subsided after taking medications. There was no significant medical history. Extraoral examination revealed no abnormalities. Intraoral examination revealed slight cuspal anomaly in the maxillary lateral incisors bilaterally with a 'Y' shaped groove on lingual side. Tooth did not respond to vitality test. Occlusal radiograph show in folding of radioopacity seen in the incisal 1/3rd of the crown extending up to the cemento enamel junction. A well defined radiolucency was seen in the periapical region of right lateral incisor and left lateral incisor extending from the mesial root surface of central incisor to mesial root surface of canine bilaterally. The radioluceny had uniform internal architecture surrounded by sclerotic border (Figure 1). This led us to diagnosis of the tooth as DID with bilateral radicular cyst.

Root canal treatment was initiated and completed in one visit. Post operative radiograph was taken to confirm the integrity of the root canal filling (Figure 2). After which an apicectomy was also carried out. For enucleation, greater palatine, and nasopalatine nerve blocks were administered with 2% Local anesthesia, A Labial full thickness mucoperiosteal flap was elevated to expose the area of lesion. Existing cortical bone window was expanded and underlying pathology was exposed and sufficient space was made for thorough curettage. Primary closure was done with 3-0 black silk (Figure 3). A specimen was sent for histopathological examination. Post-operative instructions were given and the patient was prescribed antibiotics and anti-inflammatory drugs. After one week the patient was recalled. Histopathological examination revealed a capsule and a lumen, capsule was fibrosed and lined by stratified squamous non-keratinized epithelium showing focal proliferation confirming the diagnosis of radicular cyst.

DISCUSSION:

DID occurs rarely in the primary teeth but frequently in the permanent dentition and has a general prevalence of 0.04–6% [5,6,7]. The more severe forms however are less common. There is a 3 : 1 female predilection [5,8]. Radicular invagination usually results from an infolding of Hertwig's root sheath and originates within the root after the development is complete. The dens invaginatus usually presents a bizarre radiographic appearance.

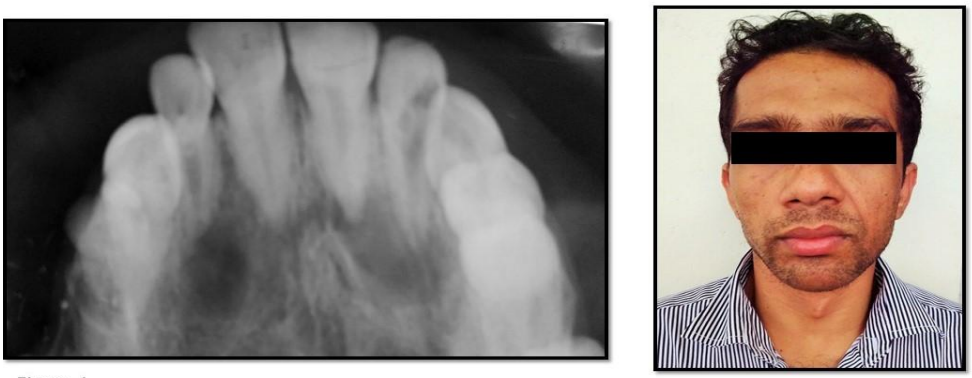

Figure 1

Figure 1: Occlusal radiograph with DID in relation to right and left lateral incisors with radicular cyst

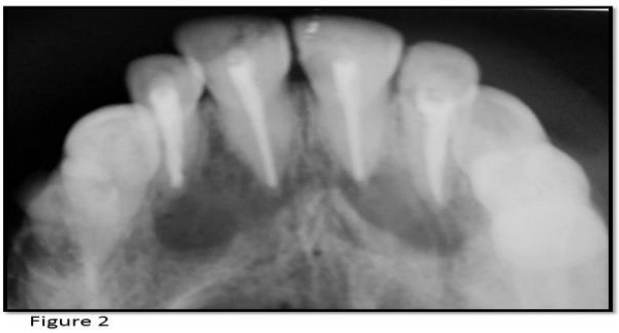

Figure 2

Figure 2: After the completion of Root Canal Treatment in relation to right and left lateral incisors

Figure 3

Figure 3: Surgical windows on the labial aspect with the apex of both right, left lateral and central incisors during apicectomy and the suturing done after the procedure.

The present case depicts the morphologically and anatomically altered tooth structure. In DID the invagination area is separated from the pulpal tissues with a thin layer of dentin and frequently communicates with the oral cavity. This allows the entry of irritants and microorganisms, which usually leads to infection and necrosis of the pulpal tissue and may lead to a periodontal or periapical abscess with continuous ingress of irritants. Ohelers classified DID into three stages [9,10]

Type 1: Invagination ends as a blind sac within the crown; Type 2: The invagination extends apically beyond the cemento-enamel junction; Type 3: The invagination extends beyond the cemento-enamel junction, and a second “apical foramen” is evident.

The pathogenesis of radicular cyst has been portrayed as encompassing of three definite

phases: phase of Initiation, cyst formation and the enlargement. Cyst is assumed to be produced by multiplying of the epithelial cell rest of malassez in inflamed periradicular tissues. Nearly all radicular cysts are lined completely or in the fragment by non-keratinized stratified squamous epithelium. The lining may be, intermittent in quantity and vary in depth from one to 50 cell strata. It's quite unusual to see this lesion in a bilaterally symmetric fashion, as was seen in our case. Several treatment modalities are available for radicular cyst, such as, surgical endodontic management, extraction of the aberrant tooth, enucleation with initial resolution, and marsupialization shadowed by enucleation. In this case, surgical enucleation was desired and was implemented on both sides [11].

CONCLUSION:

Dens in Dente (DID) can be recognized before the eruption of the tooth from periapical radiographs. These teeth should be treated prophylactically as soon as possible after tooth eruption. Early diagnosis and intervention can prevent pulpal necrosis and the potential loss of tooth. This report highlights on the occurrence of symmetrical dens n dente with bilateral radicular cyst, which is rare of its entity and shows the importance of radiographic examination prior to the diagnosis.

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