



Peripheral Presentation of Periapical Cyst: A Rare Finding

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ABSTRACT

Periapical cyst is a slow growing dental cyst, which is discovered on routine intraoral radiograph or cause localized intraosseous jaw swelling. It is typically found at root apex of the involved tooth and is discovered on routine radiography. This paper reports a rare presentation of periapical cyst. The cyst was localized in the premaxillary subcutaneous tissue, causing diagnostic difficulty. The steps in diagnosis of the lesion are also discussed.

Keywords: Periapical, Peripheral, Cyst, Unusual, Presentation.

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INTRODUCTION

Periapical cysts are common odontogenic cyst of dentate jaw. They almost invariably presents as intraosseous lesion associated with root apex of the involved tooth. It may be symptomless and get discovered on routine radiography or cause localized swelling of jaw bone. We report a case of periapical cyst, associated with maxillary central incisor, which was completely localized in premaxillary subcutaneous tissue. Such unusual presentation of a common pathology may cause diagnostic dilemma. The paper also describes steps in diagnosis and approach for management of the lesion.

CASE REPORT

A thirty-six years old female was referred to our center with complain of palpable nodule over upper lip and left side of her nose since 4 months. The swelling was gradually increasing in size and did not cause any pain or functional disturbance to the patient. No history of

trauma, dental pain or previous surgery in the region was reported. Medical history was noncontributory. On careful extraoral examination mild diffuse swelling at region of upper lip and left nostril, slightly raising the ala of nose was appreciated. The overlying skin appeared normal. Examination of anterior nasal cavity using nasal speculum showed no obvious growth or swelling. On bidigital palpation (with one figure in the maxillary labial vestibule and other over left upper lip) a round firm localized swelling of about 1 cm size was felt in the upper lip, by side of ala of nose. Intraoral examination showed no swelling over anterior maxilla. The maxillary anterior teeth were firm and nontender on percussion. Oral hygiene of the patient was poor with moderate amount of calculus and plaque deposits. On electric pulp vitality testing of maxillary teeth, left central incisor was found to be nonresponsive.

An intraoral periapical (IOPA) radiograph was advised, which showed no significant pulp or bone pathology, except for a breach in continuity of lamina-dura at apex of the maxillary central incisor (Fig. 1). At this stage, the finding on IOPA appeared coexistent, and not related to the nodular swelling. The overall clinical presentation of the lesion was suggestive of a benign growth and differential diagnosis included nasolabial cyst, lipoma, fibroma, dermoid cyst and deep mucocele of upper lip.

Ultrasonography was advised to study nature, size and extent of the lesion. The ultrasonogram showed a hypoechogenic oval mass of 16 × 15 × 11 mm (having approximately 2 cc volume) within the labial subcutaneous tissue, anterior to and abutting the maxillary bone (Fig. 2). Based on the radiological assessment, diagnosis of fluid filled cystic lesion was established. Aspiration of the cystic fluid was planned and carried out under local anesthesia, using 18 gauge needle. 1 ml of yellow fluid was aspirated and sent for cytochemical evaluation. The fluid consisted of cholesterol crystals and numerous inflammatory cells. Clinical, radiological and cytochemical evaluation were suggestive of an inflammatory cyst.

Surgical excision of the lesion by intraoral approach was planned. After attaining adequate regional anesthesia, labial mucoperiosteal flap was raised. On raising the flap till level of base of nose and lateral pyriform aperture, a round well-encapsulated growth of about 1.5 cm in size was seen. The nodular swelling was overlying and closely abutting with the labial cortex of maxillary bone, in the region of left maxillary central and

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lateral incisor (Fig. 3). Lesion was carefully lifted over available plane of dissection between the cyst wall and labial cortex of maxilla and removed. The labial cortex under the lesion did not appear thinned or expanded. However, a small round fenestration of labial cortex was seen in apical region of left central incisor (Fig. 4). The excised lesion was submitted for histopathological examination (Fig. 5). Microscopic examination of hematoxylin and eosine-stained section of cyst lining showed

keratinized stratified squamous epithelium, with arcading pattern. Cholesterol clefts and giant cells were also appreciated in the wall of the cyst lining (Figs 6A and B). The above findings were consistent with features of a periapical inflammatory odontogenic cyst, and diagnosis of radicular cyst was established.

DISCUSSION

Periapical cyst is an inflammatory odontogenic cyst that arises at a focus of inflammation in the periodontal ligament caused by pulpal necrosis of associated tooth.¹ It is also called radicular cyst, apical periodontal cyst or dental cyst. They commonly develop at root apex. However, if the tooth has a lateral or accessory pulp canal, the cyst may be located laterally.² Accordingly, based on its site of origin it is called apical or lateral radicular cyst.

They are slow growing in nature and usually get diagnosed on routine radiography. Periapical cysts appear as a unilocular radiolucent lesion with well-circumscribed sclerotic borders located around tooth root apex, ranging in size from few millimeters to centimeter.³ As the cyst grows in size it causes localized jaw swelling, alveolar bone expansion and tooth mobility.⁴ Painful swelling with pus discharge are features of secondarily infected periapical cyst. Our case presented as a nodular swelling, which was palpable in the subcutaneous tissue of upper lip, beneath ala of nose. The intraoral radiographs revealed no cystic lesion around the apex of the maxillary anterior teeth. The only finding evident on the IOPA was breach of continuity of lamina-dura at root apex of maxillary left central incisor. Fenestration of the labial cortex near apex of the maxillary incisor (apparent intraoperatively after removal of the lesion) provides the possible explanation for this rare presentation. The cyst immediately after arising from the apex of the central incisor (causing discontinuity of lamina-dura at apex of the tooth), mostly escaped out by creating fenestration



Fig. 1: Intraoral periapical radiograph of left maxillary incisor teeth, showing breach of continuity of lamina dura at root apex

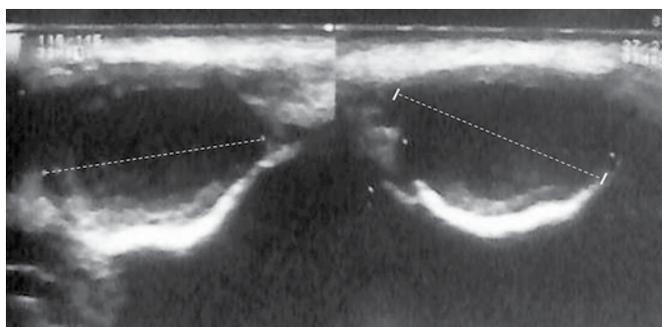


Fig. 2: Ultrasonogram showing a hypoecogenic oval mass within the labial subcutaneous tissue



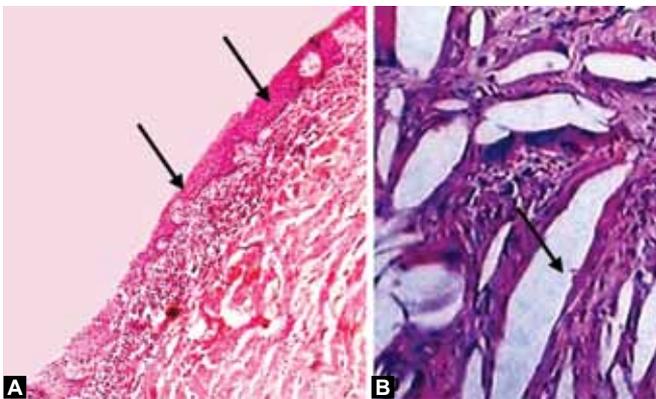
Fig. 3: Round soft nodular swelling, abutting the labial cortex



Fig. 4: Small fenestration of labial cortex in apical region of central incisor



Fig. 5: Excised lesion



Figs 6A and B: Hematoxylin and eosin-stained section showing (A) stratified squamous lining epithelium (4x, magnification), (B) cholesterol clefts (black arrow) in the wall of the cyst lining (40x, magnification)

of labial cortex and presented as a nodular growth in premaxillary subcutaneous tissue. Such unusual presentation of periapical cyst may often cause diagnostic difficulty. Pathologies that can manifest as a nodular swelling in premaxillary subcutaneous tissue includes, nasolabial cyst, lipoma, fibroma, dermoid cyst and deep mucocele of upper lip.⁵

Ultrasonography provides valuable information regarding size, extent, nature and location of soft-tissue

lesion.⁶ Ultrasonography of the present case revealed a cystic lesion, with 1 mm thin hypervascular wall within the labial subcutaneous tissue, abutting the maxilla. Cytochemical analysis of aspirate is another useful diagnostic tool for evaluating cystic lesion. It also helps to rule out any vascular lesion and avoid serious bleeding during its surgical removal. Aspirate from the cyst of the reported case was yellow colored with cholesterol crystals and numerous inflammatory cells, suggestive of an inflammatory cyst. Microscopic evaluation of the excised lesion provided the final diagnosis of periapical cyst.

CONCLUSION

Common presentation of periapical cyst makes its diagnosis easy. When atypical presentation occur, it is important to evaluate and investigate the lesion in a stepwise manner to reach a definitive diagnosis. This paper intends to report an atypical presentation of periapical cyst as a nodular swelling in premaxillary subcutaneous tissue. Recognizing these clinical variants is important to avoid misdiagnosis.

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