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CASE REPORT



Ossifying fibrous epulis associated with natal tooth: A rare case report

Sapna Santosh Kudtarkar, Anand Tavargeri

Department of Pediatric and Preventive Dentistry, SDM College of Dental Sciences and Hospitals, Dharwad, Karnataka, India

Correspondence

Dr. Sapna Santosh Kudtarkar,
Department of Pediatric and Preventive
Dentistry, SDM College of Dental Sciences
and Hospitals, Dharwad - 580 009,
Karnataka, India.
E-mail: kudtarkarsapna@gmail.com

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Abstract

Presence of natal teeth in the oral cavity itself is a rare condition, and it is extremely rare to find pathological conditions associated with the natal teeth. Gingival growth is the most frequently observed lesion in the oral cavity of which ossifying fibrous epulis (OFE) is one of the infrequently occurring gingival lesions in newborn. Parents of 3½-month-old infant reported to our department with the lump on the lower front gum pad which was noticed after the extraction of the natal tooth. A provisional diagnosis of irritational fibroma was made based on clinical a finding which was confirmed as OFE by histopathological findings. The growth was surgical excised. Complete healing was seen uneventfully after 15 days. Moreover, recall visits after 3 and 6 months showed no recurrence of the lesion.

Keywords: Lower alveolus, ossifying fibrous epulis, peripheral ossifying fibroma, radiopaque foci

Introduction

A fibrous epulis is a soft tissue swelling of gingival margin composed of heavily fibrosed granulation tissue. In untreated epulis, calcification may occur which would results in ossifying fibrous epulis (OFE). In response to the gingival injury or irritation, there is an excessive proliferation of the fibrous connective tissue of mature character and results in epulis. The most frequent causes of irritation are the subgingival calculus or the foreign body in the gingival sulcus. After which metaplasia of connective tissue in the center of the lesion takes place resulting in bone formation, as a result of chronic irritation to the periosteum or periodontal membrane.^[1]

Case Report

A 3½-month-old infant reported to our department with the chief complaint of growth on lower front alveolus region in relation to 81 tooth region with the duration of 2½ month. History revealed swelling started as a small blister in 45-day-old infant which gradually increased to the present size. As reported by mother, there was no history of pain, bleeding, and pus discharge but there was interference in nursing and felt uncomfortable. Child was born healthy after full-term pregnancy without any complications. Family history, medical history was

not relevant. Dental history disclosed that the child was born with one natal tooth which was causing discomfort in nursing and was extracted when the child was 30 days old.

Clinical examination

Extraoral examination revealed no significant abnormalities. Intraoral examination revealed a solitary gingival growth seen on the lower anterior gum pad in #81 region [Figure 1]. The lesion was measuring approximately 0.6 mm × 1 cm mediolaterally and anteroposteriorly [Figure 2]. The surface of the growth appeared irregular, stippled, and the color of growth was pinkish red. The margins were well defined and pedunculated. On palpation, the growth was firm and rubbery in consistency which was nontender and blanched on pressure. Based on the history and clinical findings, the provisional diagnosis was irritational fibroma. Differential diagnosis of fibrous epulis, peripheral ossifying fibroma (POF), peripheral cementifying fibroma, and peripheral giant cell granuloma was taken into considerations. A radiographic examination was not attempted because the child was not cooperative.

Excisional biopsy of the lesion under local anesthesia was decided. After attaining the informed consent from the parents, the child was subjected for complete blood investigations, and the finding was within the normal limits. The excised mass was radiographed and subjected to histopathological examination [Figure 3]. Radiograph revealed radiopaque calcified mass at



Figure 1: Solitary mass in the mandibular anterior region



Figure 3: Post-operative after the excision of mass

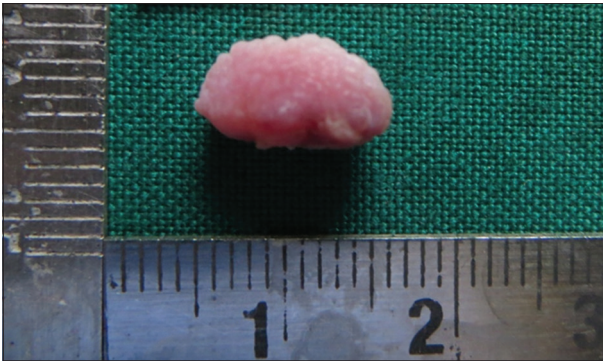


Figure 2: Excised mass measuring about 0.6 mm × 1.5 mm in size

the center of the lesion [Figure 4]. Microscopic examination revealed immature and mature mesenchymal tissue covered by reactive stratified squamous parakeratinized epithelium. The connective tissue stroma with the primitive mesenchymal tissue in the deeper areas shows ossification in the form of mature bone entrapped by osteocytes and osteoblastic rimming enclosing the marrow tissue [Figure 5]. Based on the radiographical and histopathological diagnosis, OFE was confirmed. Postoperatively healing was satisfactory. The patient was recalled after 2 weeks, 3 months, and 6 months. The surgical site showed no signs of recurrence and the patient is still under follow-up [Figure 6].

Discussion

Natal teeth are rare in humans and authors have reported the incidence of natal and neonatal teeth ranging from 1:2,000 to 1:3,500.^[2] Often these teeth are extracted because they pose the risk of aspiration. Natal tooth associated with benign reactive lesion has been described in the literature by Muench *et al.*^[3] and Agarwal *et al.*^[4] reported a case of pyogenic granuloma. Singh *et al.*^[2] reported a case of reactive fibrous hyperplasia, pulp polyp by Vergotine^[5] and POF by Kohli^[6] and Ravindranath.^[7]

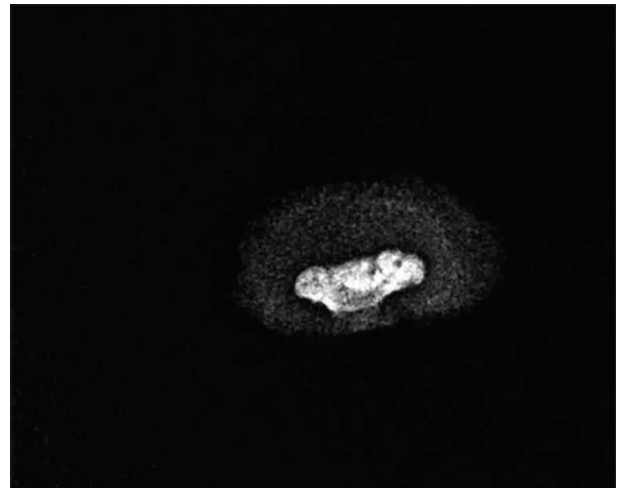


Figure 4: Radiograph after excision of mass

Ossifying fibroid epulis, peripheral fibroma with calcification, peripheral cemento-ossifying fibroma, calcifying fibroma, peripheral cementifying fibroma, ossifying fibro-epithelial polyp, peripheral fibroma with osteogenesis, peripheral fibroma with cementogenesis, peripheral fibroma with calcification, calcifying or OFE, and calcifying fibroblastic granuloma are all terms that have been used to refer to POF.^[8,9]

The exact cause of POF is not known. Chronic irritation at a particular site may stimulate mesenchymal cell of origin and proliferate in pyogenic granuloma. Later on the gingiva, the lesion may either pass through the calcifying fibroblastic granuloma stage that matures into an OFE or passes through a fibrous epulis stage that finally matures into a fibroepithelial polyp.^[10] Alternatively, also believed to be caused by long term irritation of the periosteal and periodontal membrane causing metaplasia of connective tissue which results in bone formation. In infants, it might be stimulated by removal of natal tooth which will lead to exuberant periosteal response and form a reactive lesion with some bone production. Bonder and Dayan stated

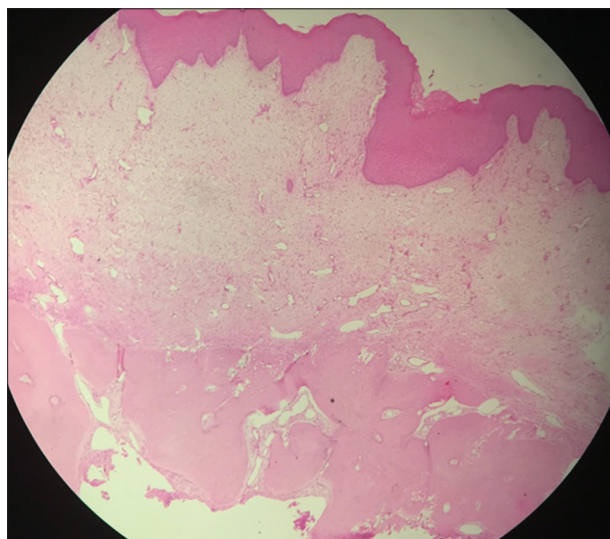


Figure 5: Histopathological examination showing ossification of mature bone



Figure 6: Recall visit after 6 months

POF rarely occurs before the age of 10 and exhibits the peak incidence between the second and third decades. The lesion affects females more than males (5:1) predominantly seen in maxilla than in mandible.^[7] However, in our case, OFE was seen in 3½ month male infant in mandibular incisor region.

OFE was diagnosed on the basis of histological findings. These are the following histological criteria for OFE which

were seen the present case (1) normal parakeratinized stratified epithelium that may be hyperplastic or thin, (2) cellular connective tissue in areas of bone formation less frequently as dystrophic calcifications, (3) interlacing bundles of collagen in areas away from bone, and (4) minimal or no inflammation.^[10]

The treatment recommended for OFE is surgically excision conservatively with an extent including the periosteum to reduce the risk of recurrence. Recurrence rate by Bhasker and Jacoway was 8%, Buchner and Hansen reported with 16%, and Kenny *et al.* showed a recurrence rate of 14%. Hence, leaving behind the residual of the lesion might attribute to recurrence.^[7]

Clinical significance

Natal tooth can be the source of pathological conditions in the oral cavity of the child resulting in reactive fibrous lesions. As a pediatric dentist, it is necessary to be aware of such cases and plan the treatment appropriately to avoid future complications.

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