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Congenital epulis: A rare benign tumor in the newborn

Abstract

Congenital epulis (CE) of the newborn is a rare benign soft tissue tumor that presents at birth. It occurs usually as a single mass with various sizes, although some multiple lesions have also been reported. The lesion is more common in female neonates and normally affects the maxillary alveolar ridge. Rare recurrence and no malignant alteration have also been reported. This condition may interfere with respiration, feeding or adequate closure of the mouth. A decisive diagnosis is made by histopathologic analysis as other newborn lesions can be incorrectly diagnosed as CE. This article presents a case report of a female infant who presented a fibrotic mass in the primary lateral incisor and canine region of the maxillary alveolar ridge. The lesion was not causing feeding or respiratory problems. After a watchful waiting procedure and no spontaneous regression, the lesion was excised under local anesthesia and confirmed by histopathologic analysis as CE.

Key words

Benign tumor, congenital epulis, excisional biopsy, newborn

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Introduction

Congenital epulis (CE) of the newborn is a rare benign tumor of the soft tissues,[1] which normally affects the maxillary alveolar ridge in neonates.[2] The exact pathogenesis of CE is still uncertain, as is its growth and progression.[2] It is normally diagnosed at birth, but there are some cases in which diagnosis can be made on the third trimester pre-natal.[3] The recommended treatment for CE is prompt surgical excision due to interferences with feeding, respiration or adequate closure of the mouth.[4] Although some cases of CE have been reported in the literature,[4] it is important to allow pediatric dentists to be aware of this congenital tumor and its presentation, differential diagnosis, treatment and histopathology.

Case Report

A 4-month-old female child was referred for the treatment of a soft tissue mass on the alveolar ridge of the maxillary noticed at birth. Clinical examination findings revealed a 0.8 cm x 0.5 cm pedunculated, smooth, pink-colored soft tissue mass on the alveolar ridge to the left of the maxillary midline [Figure 1]. The adjacent tissues were normal in appearance. A modified occlusal radiograph was taken and the presence of all primary teeth germs and no anomalies could be observed [Figure 2]. The mother reported that the baby did not have feeding problems or airway obstruction.

After discussion, the lesion was clinically diagnosed as a CE of the newborn. The treatment proposed at that moment was to monitor for a potential spontaneous lesion regression. After 2 months, as no lesion regression was observed, the treatment of choice was to remove the lesion under local anesthesia and to confirm the diagnosis by histopathologic exam. The mother was

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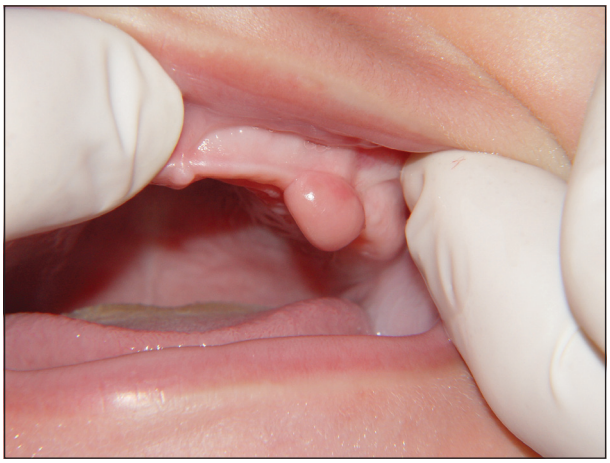

Figure 1: Pre-operative clinical view of the oval, 0.8 cm x 0.5 cm, pedunculated, smooth, soft tissue mass on the anterior left maxillary ridge in a 4-month-old female child

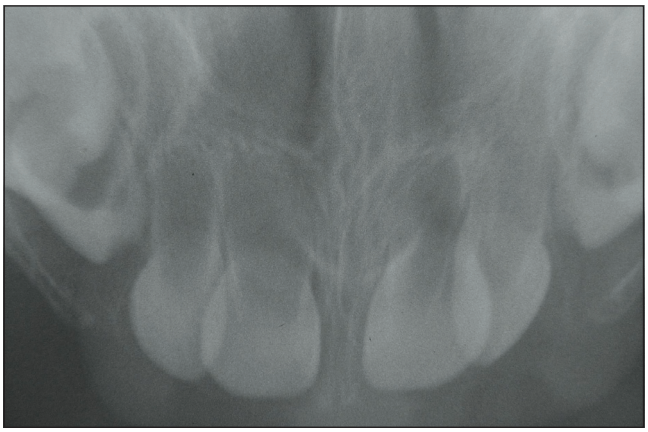

Figure 2: Occlusal radiograph of the maxilla. Note presence of primary teeth germs and no anomalies

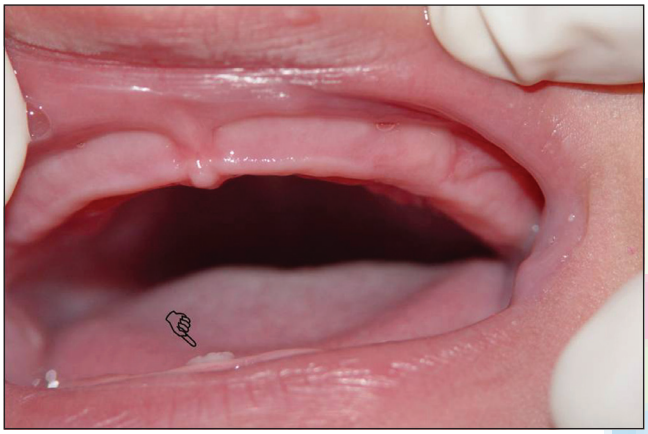

Figure 3: Post-operative clinical image 1 month after surgery. Note clinical normal aspect of the tissues and normal tooth eruption of the primary mandibular right central incisor

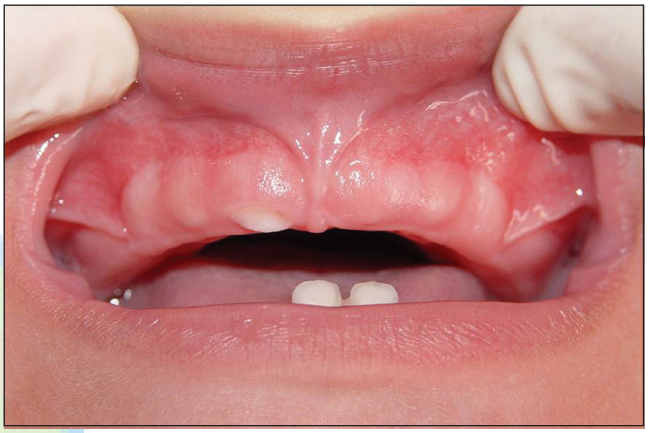

Figure 4: Post-operative clinical image 5 months after surgery. Note complete healing of the maxillary alveolar ridge without deformity and with no evidence of recurrence

advised to request a health evaluation to the pediatrician's baby. One month later, the mother reported that the baby received two intra-muscular injections of an iron-polymaltose complex to treat an iron-deficiency anemia.

After local infiltrative anesthesia, a conventional excisional biopsy was performed and the surgical piece was sent for histopathologic analysis. Suture was necessary due to the prolonged bleeding time. Post-operative instructions were given to the mother's baby.

After 1 week, the suture was removed and oral tissues presented normal post-surgical healing. The baby was being normally fed and did not require analgesic medication. One month later, clinical normal aspect of the tissues and normal tooth eruption of the primary mandibular right central incisor were observed [Figure 3].

After 5 months of follow-up, a complete healing of the maxillary alveolar ridge was observed without deformity and with no evidence of recurrence. Tooth eruption of the primary mandibular left central incisor and of the primary maxillary right central incisor was also observed [Figure 4]. Further follow-up examinations were scheduled in order to monitor the eruption of the primary dentition. At the 8-month [Figure 5] and 14-month [Figures 6, 7] follow-ups, it was observed that the anterior primary dentition presented no disturbances related to sequence and chronology of eruption or dental morphology.

The microscopic examination revealed presence of continuous stratified squamous epithelium with an intact basement membrane covered by a continuous and tick parakeratin layer. The underlying fibrous connective tissue was composed of arranged collagen fibers with diverse fibroblasts. A large number of dilated endothelial cells determining the indistinct

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Figure 5: Clinical view 8 months after surgery to monitor the eruption of the primary dentition. No signs of recurrence, teeth anomalies or eruption disturbance were observed

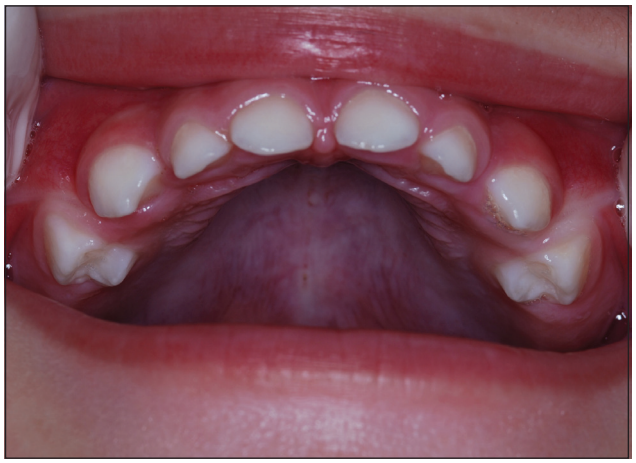

Figure 6: Clinical follow-up of 14 months. Primary dentition, normal eruption sequence and chronology for a 20-month-old child

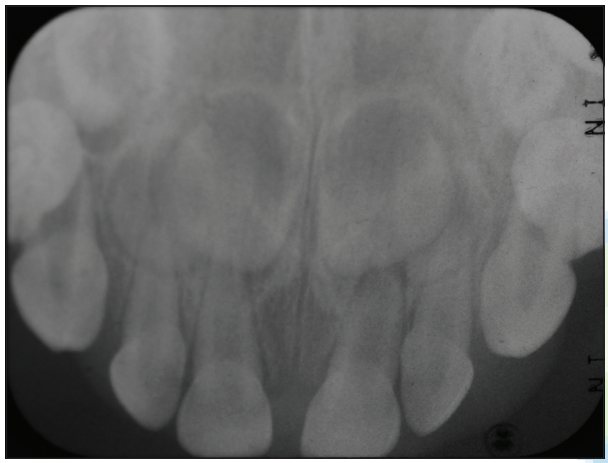

Figure 7: Radiographic follow-up of 14 months. Note the expected development of the permanent successors

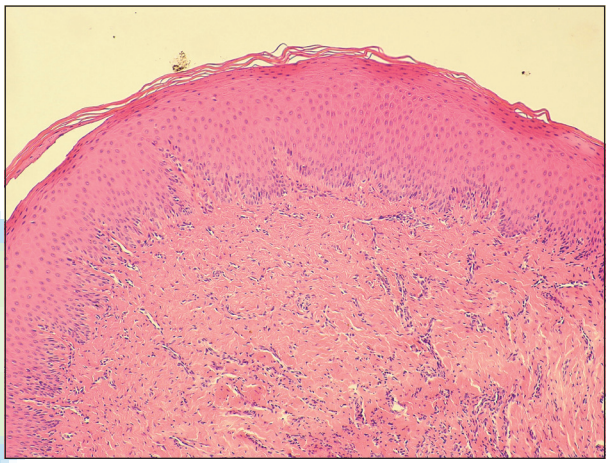

Figure 8: This histological section stained with hematoxylin and eosin exhibits a collagen-rich dense connective tissue with closely packed cells covered by a continuous stratified squamous epithelium. A delicate network of fine capillaries traversing the lesion is observed in this well-circumscribed lesion. Hematoxylin and eosin, x32

vascular lumina formation were present in the connective tissue. The histopathological findings confirmed a final diagnosis of a CE of the newborn [Figure 8].

Discussion

CE has been reported with an 8:1 female and 3:1 maxillary alveolar site predilection, with a Caucasian predisposition.[5] This condition clinically appears as a protuberant mass in a round or ovoid shape, pedunculated or sessile,[2] which may interfere with respiration and feeding.[1] CE normally arises from the anterior part of the maxillary alveolar ridge of the newborn and frequently occurs lateral to the midline in the area of the developing primary lateral incisor and canine.[2,6] The case presented in this paper has a typical presentation of a CE, a female Caucasian neonate diagnosed with a pedunculated mass in the maxillary alveolar ridge.

Some pre-natal events have been described associated with CE. Pellicano *et al*.[7] have reported that the tumor may obstruct the fetal mouth and cause polyhydramnios, a medical condition describing an excess of amniotic fluid in the amniotic sac. Post-natally, feeding and respiration problems and also interference with mouth closure have been reported.[2] In the present case, the lesion was not interfering with feeding and breathing, which could be attributed to lesion size, as already described by Kannan and Rajesh.[8]

Treatment consists of CE removal by surgery under local or general anesthesia.[2,6] A "watchful waiting" procedure can be followed because small lesion spontaneous involution can occur, although this is

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rare.[9] Conservative treatment is important to prevent newborns being exposed to unnecessary surgical procedures.[2] The treatment adopted in this case was the surgical excision under local anesthesia as no spontaneous regression was observed up to 6 months from the time of birth of the child. This is in agreement with another study.[4]

It is important to stress that clinicians should know differential diagnoses of growths in the oral cavities of newborns, including hemangioma, lymphangioma, fibroma, granuloma, rhabdomyosarcoma and osteogenic and chondrogenic sarcomas, as treatment modalities will be different for each case.[2,6] In the present case, the clinical diagnosis of CE was further confirmed by the histopathological examination of the fibrotic mass removed from the patient, which showed a stratified squamous mucosa and a prominent branching fibrovascular network.[4] Nevertheless, peripheral odontogenic fibroma of the newborn could also be diagnosed as it can present a similar appearance.[10]

The clinical presentation of congenital oral tumors can be impressive due to their size and aggressive appearance.[3] Although in the case described the lesion was small, a considerable anxiety and apprehension by the parents could be observed.[1] Therefore, if no spontaneous regression is observed, surgical intervention should be performed as soon as possible to benefit both infant and family well-being. Periodic review of oral soft-tissue pathology can help pediatric dentists to promptly identify common and rare abnormalities affecting infants and to plan the best recommended intervention.

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