

Spontaneous Regression of a Congenital Epulis in a Newborn

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A 3 day old girl presented with lobulated mass protruding from her mouth. The mass was clinically diagnosed as a congenital epulis. The child had no airway obstruction and was able to feed well. A conservative treatment was proposed with monthly follow up appointments to monitor the lesion. After 10 months the lesion completely regressed and the eruption of maxillary anterior teeth remained unaffected.

Keywords: Child, epulis, mouth, regression.

INTRODUCTION

Congenital epulis of the newborn is a relatively rare benign soft tissue tumor of the oral cavity which was first described by Neumann in 1871.¹ It clinically presents as a smooth surfaced sessile or pedunculated mass with a normal to reddish color on the alveolar mucosa predominantly in the maxillary anterior region. It generally appears as a solitary nodule but in about 10% of the cases multiple nodules have been reported.² The size varies from several millimeters up to 9.0 centimeters in diameter.³ Females are reported to be affected 8-10 times more often than males. An endogenous hormonal influence has been proposed to explain the gender bias.⁴

Histopathologically, congenital epulis comprises a large round cells with granular eosinophilic cytoplasm in a fibrous connective tissue stroma. The overlying surface epithelium exhibits atrophy of rete ridges almost similar to granular cell myoblastoma though it does not present pseudoepitheliomatous hyperplasia.⁵ Although the etiology unclear, several theories have been proposed namely myoblastic, odontogenic, neurogenic, fibroblastic, histiocytic and endocrinologic. These are mainly based on the wide variety of cell types found in histological sections. The presence of multiple

epithelial nests within the lesion suggests odontogenic or ameloblastic origin, although these nests also occur in normal gingiva.²

The presentation of the congenital epulis is often alarming to parents due to the large size, color and shape of the lesion. Often, due to the large size of the lesion, there may be interference with respiration or feeding. More than 200 cases have been reported since 1871 but the optimal management is still unclear. The treatment of choice advocated is simple surgical excision under local or general anesthesia in the neonatal period. Few case reports also suggest conservative management and report spontaneous regression of the lesion.⁶

This report concerns an infant who presented with congenital epulis arising from anterior maxillary region that was managed conservatively and spontaneous regression was noted within first 10 months of life.

Case report

A 3 day old girl child was referred to the pediatric dentistry clinic for examination of a mass protruding from her mouth. The lesion was present at birth. The child weighed 3700g at birth. She was born full term at 39 weeks of gestation via vaginal delivery after an uneventful pregnancy. There was no other congenital anomaly and family history was not significant for any hereditary conditions. On clinical examination the child was noted to have a fleshy solitary mass with broad base attached to the maxillary alveolar ridge to the left of the midline. The lesion was approximately 1.5 cm X 1.7cm in diameter with firm consistency, normal pink and non hemorrhagic (Fig 1). Upon palpation there was no tenderness, discomfort and lymphadenopathy. The inferior aspect of the lesion showed an obvious indentation because of impingement of lower ridge (Fig 2). Despite the size and prominence of the mass the infant was able to satisfactorily breastfeed. Considering the age and size of the child and her ability to breathe and feed normally, the surgical excision was deferred and the child was reviewed regularly on an outpatient basis. Parents of the child were informed and reassured that the mass would regress spontaneously or be removed later in case it does not decrease in size.

At the second follow-up appointment after 2 weeks the mass was noted to have regressed considerably. After 6 months, the

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Figure 1. Clinical appearance: age 3 days at the time of initial presentation.



Figure 2. After one week; note indentation on the inferior aspect of the lesion because of impingement of lower ridge.



Figure 3. Significant regression of the alveolar mucosal mass at 6 months of age.



Figure 4. Normal eruption of primary teeth in the former area of alveolar mass.

spontaneous regression of the lesion to 2mm was noted (Fig 3). The lesion completely regressed at 10 months of age. Further follow up appointments were scheduled monthly in order to monitor the eruption of primary dentition. At 2 years of age it was noted that the primary dentition was erupting uneventfully and no signs of any hypoplasia were noted in the teeth (Fig 4).

DISCUSSION

This is a well documented clinical report of a complete spontaneous regression of an alveolar mucosa mass suspected to be a congenital epulis of the newborn. The case described has a clinical presentation of a congenital epulis, being a sessile mass found in a female newborn at birth, in the anterior maxillary region. However, the final diagnosis could not be confirmed histologically because excision of the tissue for biopsy was not performed.

The lesion of congenital epulis needs to be differentiated with congenital malformations as encephalocoele, dermoid cysts or teratoma and benign and malignant neoplasms including hemangioma, lymphatic malformations, melanotic or pigmented neuroectodermal tumors of infancy and rhabdomyosarcoma. The diagnosis can only be confirmed by histological examination but this would involve surgical intervention, with the attendant risks of hemorrhage in a small neonate. Though the provisional diagnosis of the congenital epulis can be made clinically with solid tumor of the gingiva present at birth, the difficulties may occur when the index of suspicion is low or when the origin of tumor is hard to determine. In such cases, imaging may have a contributing role to play. Both prenatal and postnatal diagnosis of the lesion using ultrasound has been described in literature with the earliest reported case identified in a 31-week old fetus.⁷ Accurate mapping of the lesion to determine the extent and characteristics of the soft tissue mass can be done using MRI.⁸

Table 1. Reports of cases of congenital epulis managed conservatively

Author	Patient gender	Lesion size	Lesion site	Management	Follow-up duration	Outcome
O'Brien & Pielou 1971	Case 1: male	NS	Maxillary right alveolar process	1 surgically excised, 1 not excised	13 months	Non-resected lesion resolved, dentition unaffected
	Case 2: female	NS	Mandibular left posterior alveolar process	1 surgically excised, 1 not excised	12 months	Non-resected lesion disappeared
Welbury 1980	Female	1 cm	Mandibular right anterior alveolar process	Nonsurgical management	5 years	Residual swelling; dentition unaffected
Jenkins 1989	Female	1.5 cm	Right maxillary alveolar process	Nonsurgical management	12 months	Lesion size 3-4 mm; dentition unaffected
Marakoglu 2002	Female	8 × 4 × 4 mm	Anterior mandibular ridge	Nonsurgical management	NS	NS
Sakai 2007	Female	1.4 × 1.2 × 1.2 cm	Right maxillary alveolar process	Nonsurgical management	10 months	Lesion regressed in 8 months
Ruschel 2008	Female	1 × 0.6 cm	Left maxillary anterior alveolar process	Nonsurgical management	12 months	Complete regression at 12 months; dentition unaffected
Dr Erwin Turner 2009	NS	NS	Right maxillary alveolar process	Nonsurgical management	1 year	Complete regression, dentition unaffected
Ritwik 2009	Female	1.5 cm	Right maxillary alveolar process	Nonsurgical management	16 months	Residual 2 mm swelling, dentition unaffected

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A standard protocol for the management of the lesion does not exist. Surgical excision is the most commonly recommended treatment, although some authorities advocate observation only. Of all the reported cases of congenital epulis in the English literature, only eight of them have followed non-surgical management and documented spontaneous regression (Table 1). When the lesion is large and interferes with feeding and breathing, surgical excision is usually required but some precautions must be taken to limit blood loss to an absolute minimum in early infancy. Jenkins *et al.* has recommended employment of parenteral vitamin K, atraumatic intubation, use of local anesthesia with vasoconstrictor, excision without margins and bipolar coagulation in case surgical excision is indicated.⁹

In this present case the lesion did not interfere with breathing and feeding; therefore, the recommendation in the literature of regular monitoring of the lesion for regression was followed. The reason is that a congenital epulis has an inherent tendency to involute without exhibiting post natal growth.¹⁰ There are no reports of recurrence of congenital epulis even after incomplete excision, or of metastasis.

CONCLUSION

It may be proposed that as the congenital epulis has the tendency to spontaneously regress non-surgical management of the lesion ought to be considered provided the lesion does not interfere with respiration or feeding. The conservative management would avoid unnecessary exposure of general anesthesia or surgical procedure in a neonate. It is important that pediatric dentists be able to recognize congenital epulis as they may be asked to consult and provide crucial information on management as well as allay the anxiety of parents.

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