

Case Report

Dental Lamina Cyst in a Newborn Infant -A Rare Case Report

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Abstract: Dental lamina cyst, also known as gingival cyst of the newborn is a benign oral mucosal lesion of transient nature present at birth. Although prevalence is high, they are rarely seen because of the transient nature of the lesion. This cyst arises from the developing dental tissue or from their remnants. It may be incorrectly diagnosed as natal teeth if present in mandibular anterior region. The lesion is self-limiting and spontaneously shed few weeks or months after birth. Here, we present a rare case of a single lesion of dental lamina cyst of a new born infant.

Keywords: Dental lamina cyst, Newborn, Benign

INTRODUCTION

Many features of the infant mouth are unique and peculiar to the period of development. Congenital pathologies are those existing at or dating from birth. Occurrence of congenital cystic lesions in the oral cavity are uncommon in neonates and they represent a great challenge for pediatricians, pediatric surgeons, pediatric dentists, dermatologists, pathologists, and oral and maxillofacial surgeons [1].

Oral mucosal cysts in the newborn have been marked by confusing terminology that has been used interchangeably in the literature. It should be separated into two categories based on the different histogenesis of the lesions. Midpalatal raphe cysts of the newborn and gingival cysts of the newborn. Gingival cyst of the newborn, also known as dental lamina cyst is a true cyst. The cyst may be solitary or many in numbers. The gingival cyst is seen in the anterior part of the alveolar ridge. Gingival cyst of the newborn or Bohn's nodules can manifest as few or many, white to yellowish, round to oval, nodes in the maxillary and/or mandibular gingival and alveolar ridge of newborns [2].

The reported prevalence of palatal cysts in newborns is about 65% to 85% while for alveolar cysts; it ranges from 25% to 53%. Despite the high prevalence, these cysts are rarely seen by the general or pediatric dentist due to their transient nature. These cysts rupture and disappear within 2 weeks to 5 months without any treatment. Their transient nature is thought to be due to fusion of the cyst wall with oral epithelium and subsequent discharge of the cystic content [3].

It is important that the clinician does not mistake these cysts for natal/neonatal teeth when present in lower anterior region of the jaw or any other pathology in the newborn render treatment to the patient as these are transient in nature and disappear within short period. The present case report describes the characteristic clinical presentation of less reported oral cyst in a newborn infant [4].

CASE REPORT

A 4 month old male newborn infant reported with the complaint of swelling present on the gums of lower jaw. According to the nature, the swelling was asymptomatic, present since birth, but without any feeding difficulty. The child was full-term born with unremarkable medical and dental history. No noticeable findings were recorded during extra oral examination. On intraoral examination, a single nodular papule was present over the alveolar ridge in relation to 72 regions and the size of the papule was approximately 0.5cm in diameter, soft and fluctuating in consistency and color appears translucent to normal mucosa as surrounding alveolar mucosa. No other abnormality could be found on clinical examination of labial, buccal and lingual mucosa, tongue, palate and floor of the mouth. On the basis of clinical examination and characteristic appearance of the lesion, the diagnosis of dental lamina cyst was made. Since the lesion was self-limiting, the child was kept under observation after giving oral hygiene instructions.



Fig. 1: Nodular papule present in the deciduous lower left lateral incisor region.

The parents were advised for periodic follow up. Three months follow up revealed the complete regression of the cystic lesions, with no defects seen on the alveolar ridges. The infant was healthy and the parents were satisfied with outcome. Parents were explained regarding the findings of the cystic lesions in newborns, were assured about the transient nature of the lesion and instructed to maintain the oral hygiene. No treatment of any kind was done, except for parent counseling and reassurance.

DISCUSSION

The dental lamina cyst, also known as gingival cyst of newborn, is considered a true cyst because it is lined by thin epithelium, with a lumen usually filled with desquamated keratin and occasionally inflammatory cells. During the bell stage of the tooth development, the dental lamina disintegrates into discrete islands of epithelial cells. Usually these clusters degenerate and resorb. Sometimes, they persist as epithelial pearls in the gingiva, or islands within the jaw, in which case they are termed as the “rests of Serres”. These remnants proliferate to form small keratinized cyst. It is believed that fragments of dental lamina that remain within the alveolar ridge mucosa after tooth formation proliferate to form these small, keratinized cysts. The majority of these cysts degenerate and involve or rupture into the oral cavity within two weeks to five months of post natal life [5].

Dental lamina cyst, an oral lesion seen in the newborn, is known by varied name such as Bohn's nodules, gingival lamina cyst or Epstein's pearls. It is a common cause of parental anxiety. These terms are frequently used interchangeably, though there are some histological and positional differences between them. Dental lamina cyst is one of the few benign lesions found in the oral cavity of the newborn [6].

Fromm divided these benign lesions into 3 types on the basis of their histopathology and position in oral cavity:

1. Epstein's pearls – cystic nodules containing keratin located along midline raphe. They are said to develop from remnants of epithelium in the midline.
2. Bohn's nodule – cystic nodules containing keratin scattered all over the palate but predominantly located at junction of hard and soft palate. They are said to develop from minor salivary glands.
3. Dental lamina cyst – cystic nodules containing keratin, mostly multiple but occasionally single, located, along the alveolar margins (ridges). They are said to develop due to proliferation of remnants of the dental lamina.

Paula et al made a simple classification which was based on the location of these cysts in the oral cavity.

- Palatal cyst – located in the mid-palatine raphe.
- Alveolar cysts – located on buccal, lingual or crest of alveolar ridge [7].

In the differential diagnosis of dental lamina cysts, Epstein pearls, Bohn's nodules, congenital epulis of newborn and natal/neonatal teeth must be considered. All these cysts have a characteristic clinical presentation and histological findings but can be diagnosed on the basis of clinical appearance alone [8].

Congenital epulis of newborn is a smooth surfaced protuberant rare benign tumor mass, present most commonly along the alveolar ridge, normal to reddish in color with a variable size of few millimeters to few centimeters in diameter and may cause feeding/respiratory problems. Treatment of the smaller lesions includes careful wait and watch/surgical intervention, although spontaneous regression is rare. Larger lesions should be surgically excised under local (or) general anaesthesia at the earliest as they may risk the infant by causing feeding/respiratory difficulties. Congenital epulis needs surgical management in the majority of cases, whereas dental lamina cyst is self-limiting [9, 10].

Dental lamina cyst, in rare occasions, can be confused with natal/neonatal teeth which are mostly found in the mandibular anterior region. Natal/Neonatal teeth mostly exhibit mobility as their roots are short or absent and at times needs, to be extracted as of having risk of being ingested during feeding [11].

It is important to note that management of all oral inclusion cysts remains the same, as all these have a self-limiting and require no treatment [12].

CONCLUSION

Knowledge of these frequently found lesions in infants is therefore crucial for all healthcare providers, including dental surgeons and pediatricians, who may be contacted by the parents. These cystic lesions may be easily detected by their characteristic clinical appearance in the oral cavity of the infants and no active treatment is required for their management. Health care providers must reassure the parents about innocuous nature and self-limiting characteristics of these cysts, to allay the anxiety of parents towards these lesions.

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