

Gingival cyst of the newborn: A case report

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Abstract

Dental lamina cysts, also known as gingival cysts of the newborn, are benign oral mucosal lesions of transient nature. They are often mistaken as natal teeth if present in the lower anterior region. Since the lesions are self-limiting and spontaneously shed in a few weeks or months after birth, no treatment is required. Clinical diagnosei of this condition is important in order to prevent needless interventional therapeutic procedures.

Keywords: Alveolar cyst, gingival cyst, newborn, inclusion cyst.

Introduction

Many features of the infant mouth are unique and peculiar to this period of development. Some benign oral mucosal conditions are frequently found in newborns, which are transient in nature. Based on histological origin and location in the oral cavity, Fromm¹ classified oral mucosal cysts as *Epstein's pearls*, *Bohn's nodules*, and *dental lamina cysts*. The frequency of inclusion cysts is high in newborns, but they are rarely seen after 3 months of age.²

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Newborn cysts located on lateral palatal mucosa were first described by Alois Epstein, and are often referred to as Epstein's pearls. Cysts located on the area of palatal raphe are named Bohn's nodules, after his description in 1866.

In 1880, Epstein classified all palatal cysts as inclusion cysts; while Bohn classified cysts in the alveolar ridges as mucous gland cysts.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 and render treatment to the patient as these are transient in nature and disappear within two weeks to five months after birth.³

Case report

A female infant, 15 days old, was brought to the Department of Pedodontics and Preventive Dentistry by her parents, who complained of swelling over the lower gums. History revealed that the swelling was detected a week after birth.

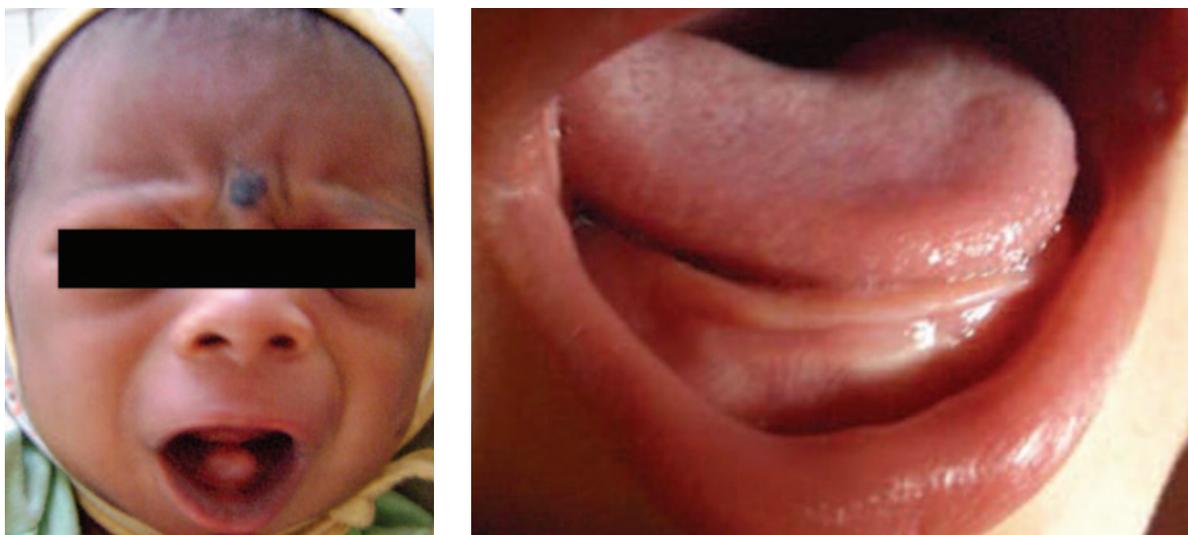


Figure 1 and 2.

The child was born full term with no complications during pregnancy or delivery. All the required vaccinations were started soon after birth and her medical history was noncontributory.

On intraoral examination, a small swelling was seen on the alveolar ridge of the mandible in the incisor region (Figure 1). The size of the lesion in the mandibular anterior region was 3x6mm. On palpation the lesion was soft and spongy in consistency. No other abnormality was seen in any other parts of the oral cavity. Based on the clinical presentation and characteristic finding, a diagnosis of alveolar cyst of the newborn was made. As the lesion is self limiting, the child was kept under observation after proper oral hygiene instructions. During the next visit after 2 weeks, the cyst had reduced and disappeared without any intervention (Figure 2).

Discussion

Gingival cysts of the newborn, also termed as alveolar cysts or dental lamina cysts, are multiple, occasionally solitary, superficial, raised nodules on edentulous alveolar ridges of infants. They arise from remnants of the degenerating dental lamina and consist of keratin producing epithelial lining.

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 gingiva¹, or islands within the jaw: in this case they are termed as the “rests of Serres”. These remnants proliferate to form small keratinised cysts.⁴

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 involute or rupture into the oral cavity within two weeks to five months of postnatal life.^{3,5,6}

Occasionally these dental lamina cysts in infants become significantly large to be clinically obvious as small discrete white swellings of the alveolar ridge, which probably correspond to those structures described in the older literature as the “predeciduous dentition”. These lesions are asymptomatic and do not seem to produce discomfort in the infants.⁷

Moreillon and Schroeder⁸ studied material from foetuses between 8 and 22 weeks and detected microkeratocysts in the alveolar ridges as early as 9–10 weeks. The appearance of palatal cysts seems to be limited to the foetal period, whereas alveolar cysts derived from the dental lamina may appear also during postnatal life. In the case of the gingival cyst of the adult, the lesion originates from “permanent dental lamina” which is deeper than primary dental lamina.

Bhat⁹ reported gingival cysts of infants (alveolar cysts) in 143 newborns (13.8%). Friend et al.¹⁰ recorded alveolar cysts in 25% of children from Tennessee, USA. Cataldo and Berkman¹¹ reported a 36.5% prevalence of cysts on the maxillary alveolar ridge.

In the study reported by Donley and Nelson², the cysts were more commonly seen in the maxillary arch than in the mandibular arch and whenever they existed in mandible, they also appeared in the maxilla. However, in

the present case the cyst appeared only in the mandibular arch.

These dental lamina cysts, if present at mandibular anterior ridge of newborn, may on rare occasions be incorrectly diagnosed as natal teeth. Hence the clinical diagnosis of these conditions are important in order to avoid needless therapeutic procedures and to provide suitable information to parents about the nature of the lesion.

Most authors do not recommend any treatment since the lesions are asymptomatic and disappear spontaneously by fusing with the oral epithelium and discharging its contents into the oral cavity during the neonatal period.¹¹ The mechanisms behind the disappearance of the cysts in postnatal life have been attributed to a discharge of cystic keratin at the time of fusion of the cyst walls with the oral epithelium. However, it has been suggested that part of the cystic epithelium may remain inactive in the midpalatal region of the adult gingiva.

In the present case no treatment was rendered to the child, but the parents were given reassurance about the self limiting nature of the lesion. The child was periodically observed and is still under observation. At a subsequent visit the cyst disappeared within 2 weeks without any intervention.

References

1. Fromm A. Epstein pearls, Bohn's nodules and inclusion cyst of the oral cavity. *J Dent Child* 1967;34:275-87.
2. Donley CL, Nelson LP: Comparison of palatal and alveolar cysts of the newborn in premature and full-term

infants. *Pediatr Dent* 2000;22:321–324.

3. Flinck A, Paludan A, Matsson L, Holm AK, Axelsson I: Oral findings in a group of newborn Swedish children. *Int J Pediatr Dent* 1994; 4: 67–73.

4. Kumar A, Grewal H, Verma M (2008). Dental lamina cyst of newborn: a case report. *J Indian Soc Pedod Prev Dent*, 26(4): 175-176.

5. Paula JD, Dezan CC, Frossard WT, Walter LR, Pinto LM. Oral and facial inclusion cysts in newborns. *J Clin Pediatr Dent* 2006;31:127-9.

6. Regezi JA. Cyst of jaws and neck. In: Regezi JA, Sciubba JJ, Jordan RC, editors. *Oral pathology: Clinical pathological correlation*. 4 th ed. W.B. Saunders Co.; 1999. p. 246.

7. Shafer WG. Cysts and tumors of odontogenic origin. In: Hine MK, Levy BM, Tomrich CE, editors. *Textbook of oral pathology*. 4 th ed. India: W.B. Saunders Co, Prism (Reprint); 1993. p. 268-9.

8. Moreillon MC, Schroeder HE: Numerical frequency of epithelial abnormalities, particularly microkeratocysts, in the developing human oral mucosa. *Oral Surg Oral Med Oral Pathol* 1982; 53: 44–55.

9. George D, Bhat S, Hegde S. Oral Findings in Newborn Children in and around Mangalore, Karnataka State, India. *Med Princ Pract* 2008;17:385–389.

10. Friend GW, Harris EF, Mincer HH, Fong TL, Carruth KR: Oral anomalies in the neonate, by race and gender, in an urban setting. *Pediatr Dent* 1990; 12: 157–161.

11. Cataldo E, Berkman MD: Cysts of the oral mucosa in newborns. *Am J Dis Child* 1968; 116: 44–48.