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Case report

Newborn Gingival Cyst: A Case Report

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Abstract
Gingival cyst of newborn is a type of oral mucosal lesion of transient nature. It is very common lesion within 3 to 6 weeks of birth and very rare to visualize the lesion thereafter. We report a case of three gingival cysts that are visible 15 days of birth. Two of these cysts are Bohn nodules (one on each side of the maxillary alveolar ridge, and the other one is Epstein pearl at the midline of the palate. Clinical diagnoses of these conditions are important in order to avoid unnecessary therapeutic procedure and provide suitable information to parents about the nature of the lesion.
***Keywords**: Gingival Cyst, Newborn, Bohn Nodules, Epstein Pearl.*

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Introduction

Many features of the oral cavity are unique and peculiar during the developmental period of birth. Some benign oral mucosal conditions are frequently found in newborns, which are transient in nature in characteristic (1). 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).

Gingival cyst of the new born is a cyst that arises from the rest cells of the dental lamina. Generally, occur in multiples but occasionally as solitary nodule also, white to yellowish in appearance, and are round to oval in shapes. These nodes generally measure 2 to 3 millimeters in their largest dimension(2). They are located on the alveolar ridges of new born or young infants and are generally asymptomatic and do not produce any discomfort for the infant (3).

Based on the location, these cysts may be divided into palatal or alveolar cysts. Those located at the mid palatine raphe are referred as palatine cysts while those present on the buccal, lingual or crest of alveolar ridge as alveolar or gingival cysts (4), Bohn's nodules are cysts located in the gingival region on the buccal or lingual surface of the alveolar ridge (not the crest) or the hard palate, away from the midline. When cysts are found in the midline of the palatine bone, they are referred to as Epstein's pearls or palatal cyst of the newborn [5,6]. The reported prevalence of alveolar cysts in newborn ranges from 25 to 53% [7,8], while for palatal cysts is about 65% (9). Individually, the prevalence of gingival cyst of infants is 13.8%, Epstein's pearl is 35.2% and Bohn's nodules is 47.4% with no sexual predilection (10). We report a case of three gingival cysts that are visible 15 days of birth.

Case report

A three weeks old female baby was admitted to the department of the oral medicine at Faculty of Dentistry -University of Zawia with a complaint of swellings in the upper gum region and the palate region, observed for two weeks after birth. History revealed that the swellings were still with no increase in size. She is the first child to a non- blood-related married couple. The child was full term born with no complications during pregnancy or delivery. The required after birth vaccinations were taken and the medical history was non-contributory. The intra oral examinations of the child revealed small nodules with whitish appearance compared to the adjacent mucosa over right and left alveolar ridges and also another one on the midline of the palate, firm in consistency with sizes of about 2mm in diameter (Figure 1). No other abnormality was seen in any other sites of the oral cavity.

On the basis of clinical examination and characteristic appearance of the lesions, a diagnosis of the gingival cysts of the new born was made. Since lesions are self-limiting the infant was kept under observation after giving instructions to the parents. During the next visit (after two weeks), the nodules were reduced in size and then disappeared with no further complications.

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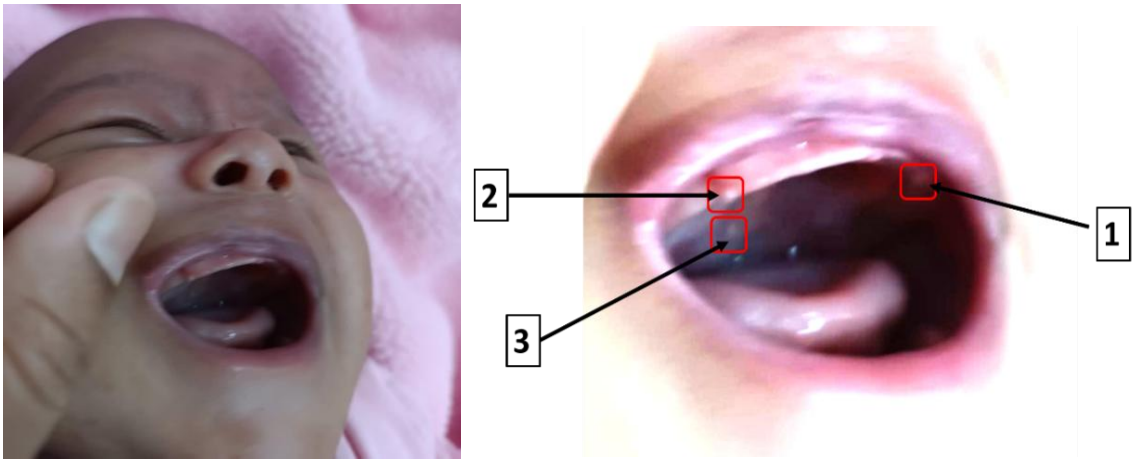

Figure 1. Small nodules with whitish appearance compared to the adjacent mucosa. The small nodules can be observed over right and left alveolar ridges and also another one on the midline of the palate (marked with red rectangular).

Discussion

Gingival cysts of the newborn are multiple or solitary superficial nodules on edentulous alveolar ridges of infants. They arise from remnants of the degenerating dental lamina and consist of keratin producing epithelial lining. The case contains three nodules at the same time. The two nodules at the maxillary ridge (one at each side as can be observed in figure 1) are classified as Bohn's nodules, while the third one is at the midline of the palate that is classified as Epstein pearl. The Bohn's nodules were found in 13.8% of 1038 neonates and the Epstein pearls were found in 35.2% of them as it was reported by Dilip George et al in 2008 (10). Brenda Perez-Aguirre et al in a six-month study (between December 2011 and May 2012) of the neonates in two hospitals in Mexico included 2216 new born found that the Bohn nodules were found in 70% of the neonates while Epstein pearls were found in 66% of the neonates. They also found that neonates could have multiple Bohn nodules and Epstein pearls. The total Bohn nodules were 9542 in 1550 neonates, and the Epstein pearls were 4520 in 1463 neonates (11).

Zen et al in 2019 in a study included 74 preterm neonates and 100 full-term neonates found that only 5.4% of the preterm neonates had Bohn nodules whereas 46% of the full-term neonates had Bohn nodules. On the other hand, Epstein pearl was found in 68.9% of the preterm neonates and 63.0% of the full-term neonates (12). This study showed that Bohn nodules were less common among the preterm neonates whereas the Epstein pearls are more common in the preterm neonates. The differences in the percentage of Bohn nodules and Epstein pearls presence in the neonates among different studies could by related to reagonal differences or racial differences.

The presence of a single Bohn nodules was reported by several research groups including Jinisha Madathil et al 2016 and Ali Taqwim et al 2022 as illustrated in figure 2 A and B. The presence of an Epstein's pearl in newborn was also reported by Zen et al 2019 as it was illustrated in figure 2 C.

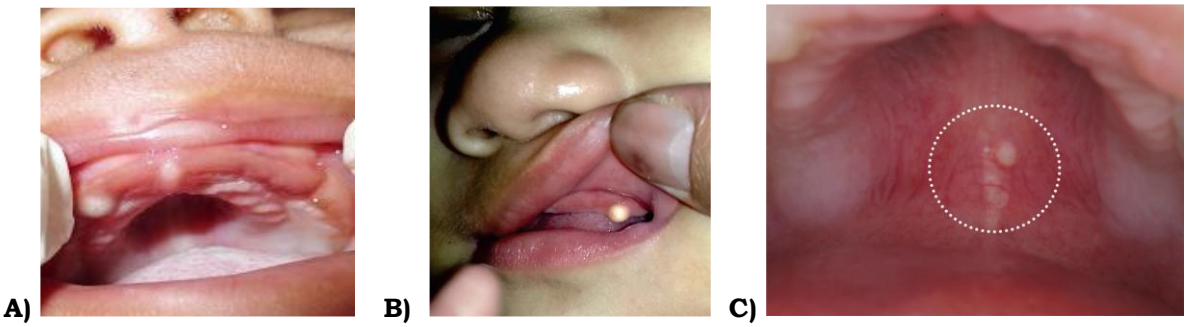

Figure 2. Gingival Cysts at different locations. A) A gingival nodule on the right alveolar ridge reported by Jinisha Madathil et al 2016((1)***. B) A gingival nodule on the left alveolar ridge reported by Ali Taqwim et al 2022***(13)***. C) An Epstein's pearl in pre-term newborn reported by I. Zen et al 2019*** (12)**.**

Conclusion

The case Presented here is a two weeks old infant that has three visible gingival cysts. Two of these cysts are Bohn nodules (one on each side of the maxillary alveolar ridge, and the other one is Epstein pearl at the

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midline of the palate. The clinical diagnoses showed that no therapeutic procedures were need and the infant was generally healthy.

Conflict of Interest

There are no financial, personal, or professional conflicts of interest to declare.

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المستخلص

الكيس اللثوي عند الأطفال حديثي الولادة هو نوع من اصابات الغشاء المخاطي للفم ذات طبيعة مؤقتة. وهي اصابة شائعة جدًا يمكن ملاحظتها خلال 3 إلى 6 أسـابيع بعد الولادة ومن النادر جدًا رؤيتها بعد ذلك. في هذا التقرير دراسـة حالة لثلاثة أكياس لثوية يمكن ملاحظتها بعد 15 يومًا من الولادة. اثنان من هذه الكيسـات هما عقيدات بوهن (واحدة على كل جانب من الحافة السـنخية العلوية)، والأخرى هى إبشـتاين بيرل فى الخط الأوسـط للحنك. يعد التشخيص السريري لهذه الحالات أمرًا حيويًا لتجنب الإجراءات العلاجية غير الضرورية وتوفير المعلومات المناسبة للوالدين عن طبيعة الإصابة.