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Beneath The Baby Gums: A Rare Neonatal Mucocele

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Abstract
Mucoceles are benign lesions of the oral mucosa, most often affecting the lower lip. Their occurrence on the mandibular alveolar ridge in neonates is extremely rare and may be mistaken for other congenital swellings. We report the case of a healthy full-term neonate presenting with a localized swelling on the anterior mandibular alveolar ridge. History, Clinical evaluation and aspiration cytology findings confirmed a mucocele. Spontaneous resolution with no recurrence at six-month follow-up was noted. This case emphasizes the importance of considering mucoceles in the differential diagnosis of neonatal intraoral swellings and the role of timely management in ensuring favourable functional and aesthetic outcomes.

Keywords: *Alveolar ridge; Infant; Mandible; Mucocele; Newborn; Oral cavity lesions; Salivary gland diseases*

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I. Introduction

Oral mucoceles are among the most frequently encountered benign lesions of the oral mucosa. It presents as mucus-filled cavities arising from the secretory activity of minor salivary glands.[1]

The lower lip is the most prevalent site for mucoceles, though they can occur throughout the oral cavity. These lesions show no sex predilection and may present across all age groups, with peak incidence typically noted in the second and third decades of life. However, mucoceles are rarely observed in infants under age of one year (2.7%), often making their diagnosis and management more challenging in this population.[2] In infants these lesions can appear (i) at the time of birth,(ii) shortly after birth due to presence of neonatal teeth or (iii) late due to trauma caused by pacifiers or digit sucking. Clinically, mucoceles may mimic various cystic or nodular lesions of the oral cavity, necessitating a careful differential diagnosis to guide appropriate treatment.

This case report describes an unusual occurrence of a mucocele on the lower anterior alveolar ridge in a neonate.

II. Case Details

A 2 days old female baby was referred from department of paediatric to department of oral and maxillofacial surgery in view of swelling in lower gums which was present from the time of birth. Maternal health history revealed no notable findings with normal vaginal delivery of the infant. There was no history of trauma or surgical procedures done in the oral cavity of the patient. The mother stated that the lesion did not interfere with sucking or feeding. Clinical examination revealed a dome shaped solitary (approximately 1.0 x 0.5 cm), translucent bluish , smooth, fluid filled swelling in relation to mandibular anterior gum pad (Figure 1). It was non tender ,soft in consistency, fluctuant and compressible. These features corelated to a provisional diagnosis of mucocele or a congenital epulis. Under topical anaesthesia using a 26-gauge needle, clear fluid aspirate was obtained (Figure 2) which on microscopic evaluation revealed presence of abundant extracellular mucin pools , scattered mucinophages (Figure 3). This was confirmatory for the diagnosis of mucous extravasation cyst. The mucocele drastically reduced in size post aspiration and no refilling of mucinous contents were noted. Patient was kept on regular follow up. The lesion subsided gradually. No postoperative complications or recurrence was noted during 6 months of follow-up (Figure 4).

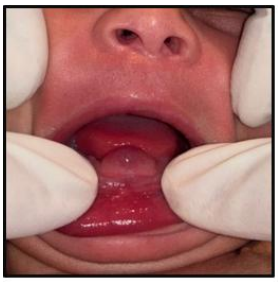

Figure 1 : Mucocele in relation to lower gum pad

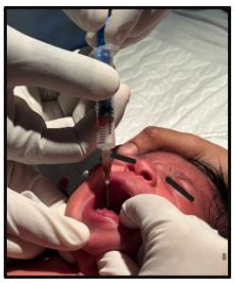

Figure 2 : Aspiration of the cystic contents

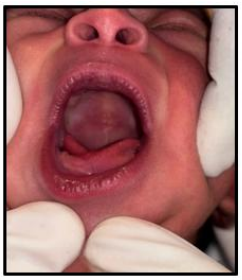

Figure 4 : 6 months follow up

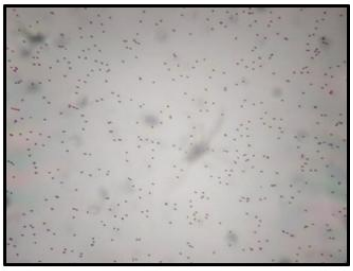

Figure 3 : Microscopic examination of H and E stained aspirate (25x magnification) shows extracellular mucin pools with mucinophages

III. Discussion

Mucoceles are prevalent oral lesions that frequently affect minor salivary glands. While they most frequently occur on the lower labial mucosa, their presence on the alveolar ridge, particularly in neonates, is less common and presents a distinct clinical scenario.[3,4] Mucoceles in neonates can exhibit a different clinicopathological pattern compared to those in older children or adults, sometimes necessitating urgent management if they interfere with vital functions like feeding or respiration.[3]

The pathogenesis of mucoceles primarily involves trauma leading to the rupture of a minor salivary gland duct and subsequent extravasation of mucin. [5] In neonates, this trauma can often be attributed to birth processes or suckling. The extravasation type is considered more common, especially in younger individuals.[5,6] Congenital mucoceles can arise either from congenital salivary duct atresia or due to trauma to the infant's oral tissues during pregnancy or childbirth. Trauma sources encompass behaviours like intrauterine finger sucking, passage through the birth canal, and forceps-assisted delivery.[2]

Clinically, a mucocele often appears as a translucent, bluish, soft swelling. However, a comprehensive differential diagnosis is crucial for any oral mass in a neonate. Other lesions that may present similarly in this age group include Bohn's nodules, Epstein's pearls, congenital epulis, eruption cysts, and, importantly, more serious conditions such as melanotic neuroectodermal tumour of infancy.[7] While many oral lesions in neonates are benign and may resolve spontaneously, the presence of an alveolar mucocele requires careful assessment to differentiate it from other pathologies and to evaluate potential functional impacts.[7] Imaging studies can play a significant role in evaluating the location and extent of these lesions and aiding in diagnosis.[8]

Management strategies for oral mucoceles in paediatric patients vary, ranging from conservative observation to surgical intervention.[9] Similar to our patient, literature reports of small, asymptomatic mucoceles in neonates, particularly those on the alveolar ridge, that may spontaneously rupture or resolve due to which some practitioners advocate for a watchful waiting approach.[9] However, if the lesion is large, persistent, causes feeding difficulties, or poses a risk to the airway, surgical excision is often indicated.[4] Minimally invasive techniques such as micro-marsupialization, tying methods, or laser ablation have also been successfully employed in paediatric cases.[10] The choice of treatment should be individualized based on the size, location, symptoms, and potential for spontaneous resolution of the mucocele.

IV. Conclusion

This case highlights the importance of recognizing and appropriately managing alveolar ridge mucoceles in neonates. While generally benign, their presentation can mimic more serious conditions, necessitating a thorough clinical evaluation and differential diagnosis. The decision for conservative versus surgical management should be guided by the lesion's characteristics and its impact on the neonate's well-being. This case adds to the limited literature on this specific presentation, contributing valuable insights into its diagnosis and management in the neonatal population.

References

[1]. Baurmash HD. Mucocele And Ranula. J Oral Maxillofac Surg. 2003;61(3):369-78.
[2]. Gatti AF, Moreti MM, Cardoso SV, Loyola AM. Mucus Extravasation Phenomenon In Newborn Babies: Report Of Two Cases. Int J Paediatr Dent. 2001;11(1):74-7.
[3]. Mouravas V, Sfoungaris D, Papageorgiou I, Kepertis C, Spyridakis I. Mucoceles Of The Lesser Salivary Glands In Neonates Demonstrate A Particular Clinicopathological Pattern And Mandate Urgent Management. J Stomatol Oral Maxillofac Surg. 2018;119(3):238-41.
[4]. Suryavanshi R, Abdullah A, Singh N, Astekar M. Oral Mucocele In An Infant With An Unusual Presentation. BMJ Case Rep CP. 2020;13(6):E234669.
[5]. Thompson LD. Mucocele: Retention And Extravasation Types. Ear Nose Throat J. 2013;92(3):106-8.
[6]. Nico MM, Park JH, Lourenço SV. Mucocele In Pediatric Patients: Analysis Of 36 Children. Pediatr Dermatol. 2008;25(3):308-11.

[7]. Patil S, Rao RS, Majumdar B, Jafer M, Maralingannavar M, Sukumaran A. Oral Lesions In Neonates. Int J Clin Pediatr Dent. 2016;9(2):131-8.
[8]. Tranvinh E, Yeom KW, Iv M. Imaging Neck Masses In The Neonate And Young Infant. Semin Ultrasound CT MR. 2015;36(2):120-37.
[9]. Godhi BS, Yurembam S, Cherukodath SP, HP J, HP C. Advanced Management Of Mucoceles: Clinical Perspectives And Modern Treatment Techniques. Turk Arch Pediatr. 2025;60(1):103-9.
[10]. Kim J, Kim G, Lee J, Kim H, Nam S. Minimally Invasive Techniques For The Treatment Of Mucoceles In Young Patients: A Case Series. J Korean Acad Pediatr Dent. 2022;49(1):113-20.

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