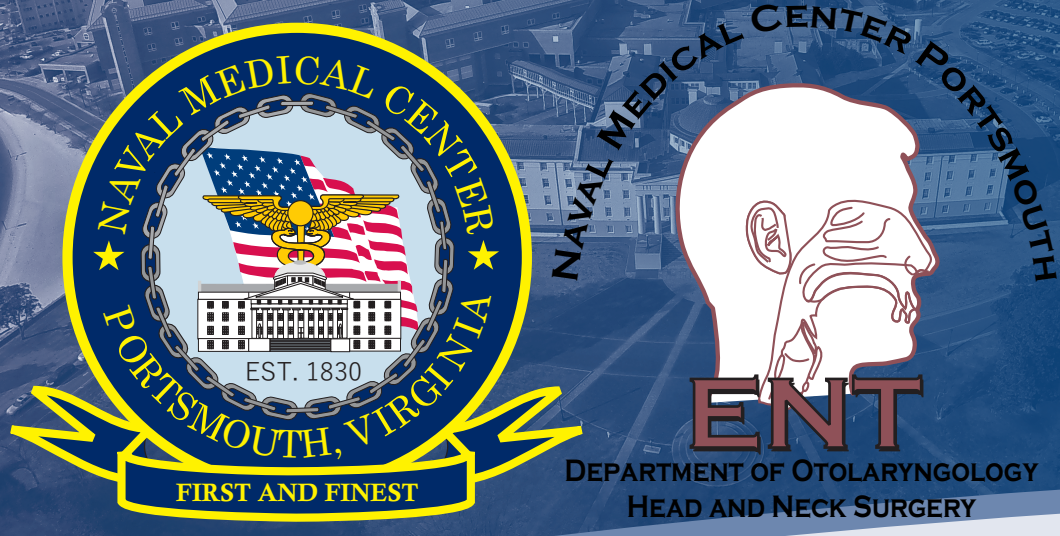


# A Congenital Granular Cell Tumor Presenting as an Oral Cavity Mass in a Newborn: A Case Report and Literature Review

Thomas McDonald, MD,LT, MC, USN; Erin Hamersley, DO,CDR, MC, USN

Department of Otolaryngology  
Naval Medical Center Portsmouth, Virginia



## Introduction

- An epulis is a rare congenital granular cell tumor that presents as an oral cavity mass in newborns.
- *Epulis* comes from the Greek “on the gum” as these typically arise from the alveolar ridge (1).
- Estimated incidence worldwide of 0.0006% of newborns (2).
- These tumors are more commonly described in females with a female: male ratio of 8-10:1(2,6).
- Size may vary from a few millimeters to nearly 10 cm (1,2,6), and they may impact breathing and feeding.
- Histopathology demonstrates polygonal cells with eosinophilic granular cytoplasm (2).
- Large tumors can lead to airway compromise (4).
- Prenatal diagnosis is uncommon but can help identify need for surgical intervention in the postnatal period (6).
- Treatment is multidisciplinary (5).
- We describe our experience with an epulis that presented as a maxillary mass identified following delivery.



**Figure 1.** Initial presentation of right maxillary alveolar mass in a newborn girl.

## Overview Of Case

- An otherwise healthy, full term female infant was born with a maxillary mass just to the right of midline.
- The mass was not detected on prenatal ultrasounds, but was recognized shortly after birth, measuring 1.5 x 1 cm in size and prevented the infant from fully closing her mouth.
- The infant had a patent airway and did not experience any respiratory distress.
- No other anatomic abnormalities were identified in the child.
- Given the size and location, there was concern for impacts on ability to effectively breastfeed, thus the recommendation was made for surgical excision.
- Interdisciplinary coordination between neonatology, pediatric anesthesiology, and pediatric otolaryngology for planned endotracheal intubation and surgical excision in the operating room.
- The mass was excised under general anesthesia on day of life two.
- Complete excision was performed with electrocautery. Intraoperatively the maxilla was noted to have a depression deep to the mass secondary to remodeling in utero.
- Histopathologic analysis was consistent with a congenital granular cell tumor (epulis).
- Following recovery from the anesthesia, the patient was able to successfully latch and breastfeed shortly after completion of the procedure.
- Postoperative follow up demonstrated re-epithelialization of her surgical site, with continued improvement in the shape and contour of the maxilla. She has continued to feed and gain weight as expected.



**Figure 3.** Intraoperative images: A. Mass immediately before excision. B. Mass immediately post excision. C. Specimen following excision.

## Discussion

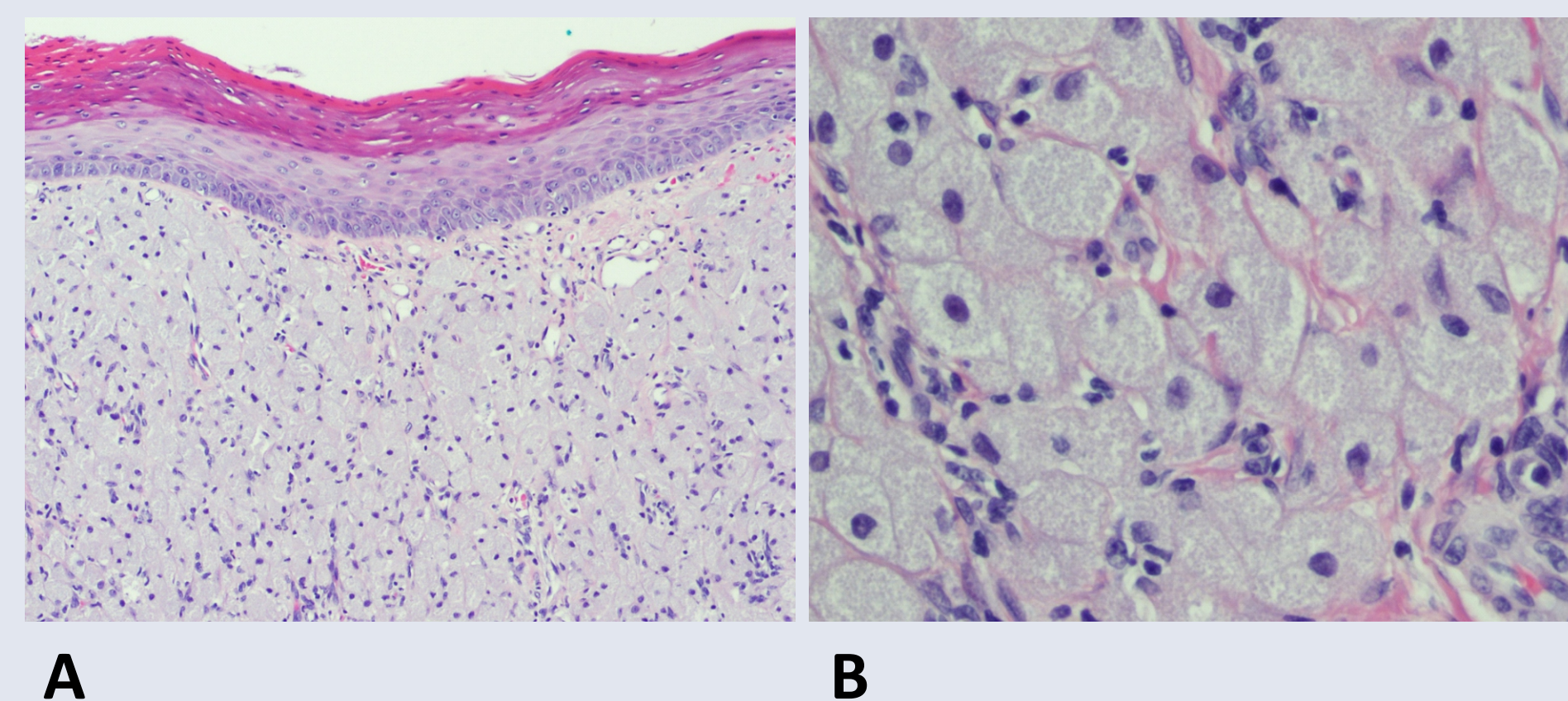
- Here we present a case of a congenital granular cell tumor, also known as an epulis; a rare cause of oral cavity mass in the newborn.
- These tumors are benign in nature, however given their location can have significant impact on an infant's ability to feed and can lead to respiratory distress.
- The differential diagnosis for an epulis includes a dermoid cyst, hemangioma, lymphatic malformation, and malignancies such as rhabdomyosarcoma (1,3,4).
- Our case demonstrates that surgical excision is tolerated well, and this newborn has thus far developed normally with good feeding ability and appropriate healing of the oral mucosa without long term sequelae.
- This case involved multidisciplinary care between multiple pediatric subspecialties to include neonatology, pediatric hospitalists, pediatric anesthesiology, and pediatric otolaryngology.
- These patients tend to tolerate excision well, as seen in our case, and go on to develop normally.

## Conclusion

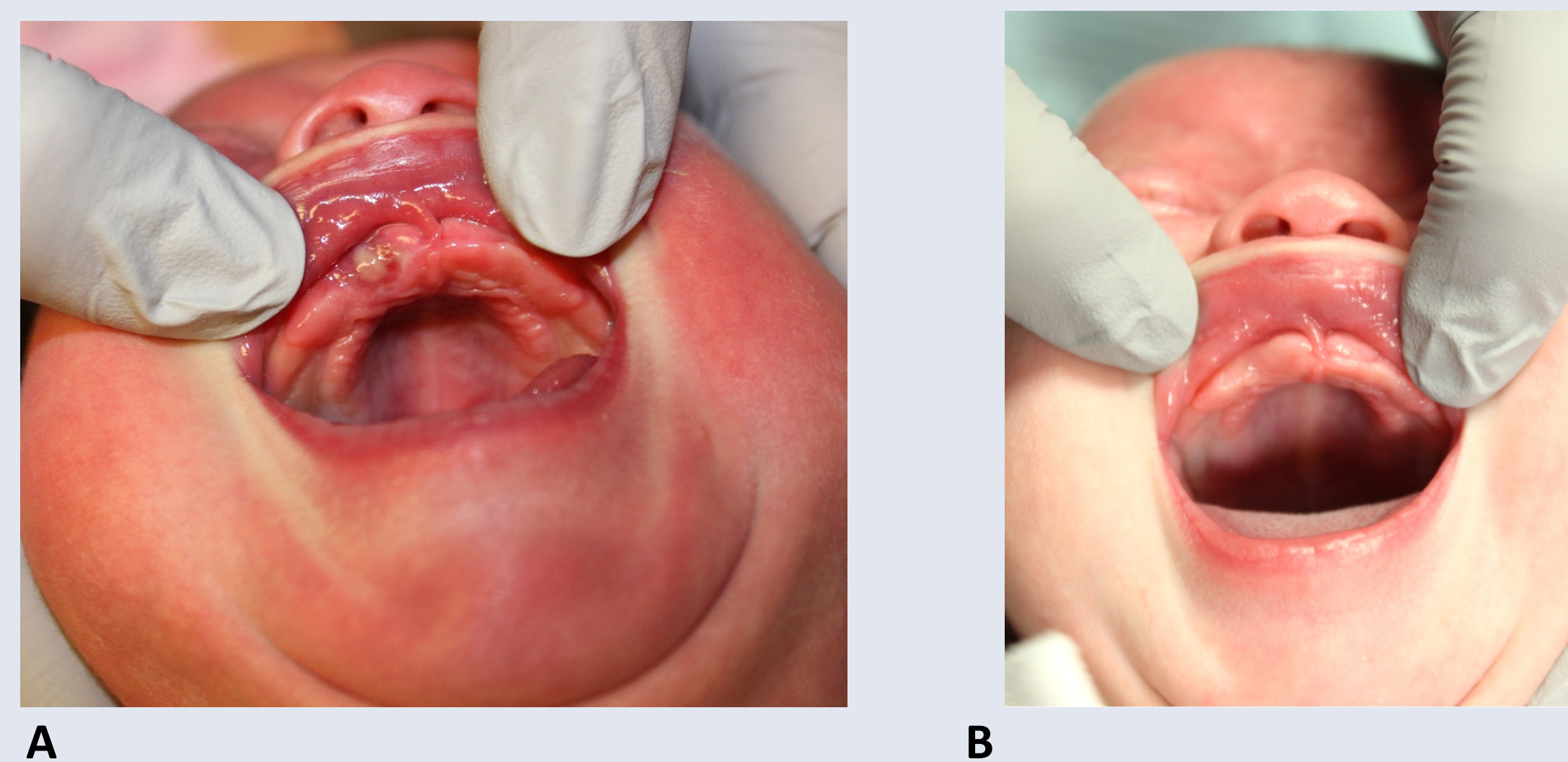
This case demonstrates a rare case of an oral cavity mass in the newborn that is primarily managed through surgical excision. Through collaboration of various pediatric specialties, these tumors can be treated with minimal long-lasting effects. This rare finding should be considered in the differential diagnosis in a newborn with an oral cavity mass.

## References

1. Babu E, Kamalasanan G, Prathima GS, Kavitha M. Congenital Epulis of the Newborn: A Case Report and Literature Review. *Int J Clin Pediatr Dent.* 2021;14(6):833-837.
2. Bosanquet D, Roblin G. Congenital epulis: a case report and estimation of incidence. *Int J Otolaryngol.* 2009;2009:508780.
3. Cheung JM, Putra J. Congenital Granular Cell Epulis: Classic Presentation and Its Differential Diagnosis. *Head Neck Pathol.* 2020;14(1):208-211.
4. Jain N, Sinha P, Singh L. Large Congenital Epulis in a Newborn: Diagnosis and Management. *Ear Nose Throat J.* 2020;99(7):NP79-NP81.
5. Messina M, Severi FM, Buonocore G, Molinaro F, Amato G, Petraglia F. Prenatal diagnosis and multidisciplinary approach to the congenital gingival granular cell tumor. *J Pediatr Surg.* 2006;41(10):E35-E38.
6. Ye Y, Tang R, Liu B, Li Y, Mo Y, Zhang Y. Prenatal diagnosis and multidisciplinary management: a case report of congenital granular cell epulis and literature review. *J Int Med Res.* 2021;49(10):3000605211053769. [doi: 10.1186/s13244-019-0704-z](https://doi.org/10.1186/s13244-019-0704-z). PMID: 30771026; PMCID: PMC6377693.



**Figure 2.** Case pathology H&E slides demonstrating epithelial lined structure with polygonal cells with granular cytoplasm. A-Low magnification. B-High magnification



**Figure 4.** Postoperative recovery demonstrating healing at: A. one week post-op, and B. 7 weeks post-op with complete remucosalization of the surgical site.