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CASE REPORT

Congenital Granular Cell Epulis Presenting as a Rapidly Growing Maxillary Mass in a Neonate

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ABSTRACT

Congenital granular cell epulis (CGCE) is a rare benign tumor of the newborn arising from the alveolar ridge and occasionally causing feeding or airway difficulties. We report a case of a 19-day-old neonate who presented with a rapidly enlarging swelling arising from the upper jaw. Complete surgical excision was performed. Histopathological examination revealed characteristic granular cells, and immunohistochemistry showed positivity for CD68 and S-100 protein, confirming the diagnosis of CGCE. Although the management of CGCE is simple and the lesion is benign, it can cause severe feeding difficulties and anesthetic concerns during airway management. The case highlights diagnostic features, surgical management, and anesthetic challenges associated with neonatal oral tumors.

KEYWORDS:

• Airway • Congenital Granular Cell Epulis • Neonate • Maxillary Mass • Immunohistochemistry

INTRODUCTION

Rapidly growing soft tissue masses from the maxillary alveolar ridge are uncommon but may cause feeding and breathing difficulties.[1] Congenital granular cell epulis (CGCE), also known as Neumann's tumor, is a rare benign lesion in this position and occurs mostly in neonates.[2-4] The maxillary alveolar ridge is usually the site of origin of this lesion. Females are more commonly affected than males. Although they are usually present at birth, they may rapidly grow in size to be noticeable and symptomatic. Because they interfere with feeding and breathing, early surgical intervention is needed. A case of rapidly growing maxillary CGCE in an infant is presented, emphasizing the histopathological and immunohistochemical findings along with anesthetic considerations.

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CASE REPORT

A 19-day-old female presented with a rapidly enlarging mass involving the upper jaw since birth **(Figure 1)**. She was born at term via an uncomplicated vaginal delivery and had no obvious antenatal or perinatal risk factors. Except for the swelling, she did not have any other symptoms at birth. This swelling progressively grew in size. Gradually, she started to have feeding difficulties. However, there was no breathing difficulty when the child first presented.

On examination, a well-defined, pedunculated, pinkish mass measuring approximately 2.5× 1.5 cm was noted to be arising from the anterior maxillary alveolar ridge. It was firm, non-tender, non-ulcerated, and did not bleed when palpated. She did not have any other obvious anomaly.

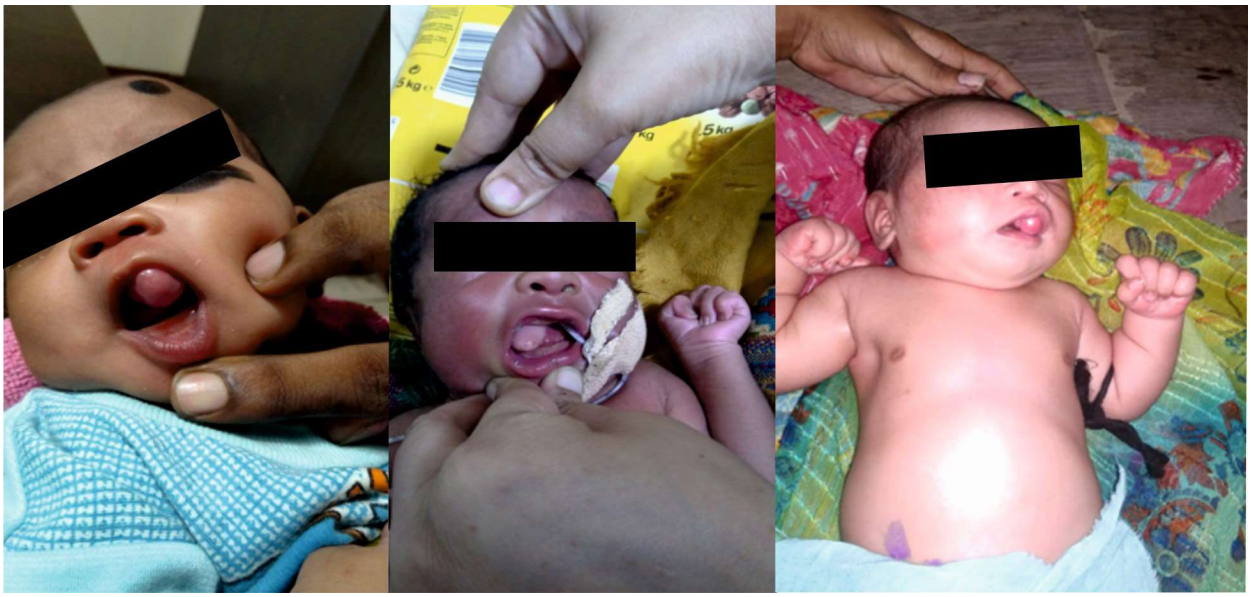

Figure 1: Clinical Picture of a child with Congenital granular cell Epulis arising from the maxillary alveolus

Considering that the lesion had rapid growth leading to feeding difficulties, surgical excision of the lesion was planned. Neonatal oral cavity tumors (like these) pose significant anesthetic challenges due to potential airway obstruction and difficulty in mask ventilation or endotracheal intubation. In this case, the maxillary mass partially occupied the oral cavity, which necessitated careful preoperative airway assessment and the possibility of difficult airway management. Induction was performed with maintenance of spontaneous ventilation until airway control was achieved. Close coordination between the anesthetic and surgical teams was essential to minimize blood loss and prevent airway compromise. Postoperative monitoring focused on airway patency and early feeding.

It was completely excised under general anesthesia, and the tissue was sent for histopathological examination (HPE). Intraoperatively, the underlying bone was not involved, and the lesion was confined to the alveolar mucosa. The postoperative period was uneventful. Oral feeding was started within 24 hours of surgery.

HPE revealed a tumor composed of sheets and nests of large polygonal cells having abundant granular eosinophilic cytoplasm and small, centrally placed nuclei. No mitotic activity, cellular atypia, or necrosis was observed. The overlying squamous epithelium was intact and did not demonstrate pseudo-epitheliomatous hyperplasia.

Immunohistochemistry (IHC) revealed **diffuse cytoplasmic positivity for CD68**, suggesting lysosome-rich granular cytoplasm. **Vimentin** was positive (suggesting mesenchymal differentiation). The tumor cells also showed p**ositivity for S-100 protein**. These findings, in conjunction with the characteristic histomorphology and clinical presentation, confirmed the diagnosis of **congenital granular cell epulis**.

DISCUSSION

CGCE is a benign tumor with no malignant potential. After complete excision, it shows an excellent prognosis. The exact etiopathogenesis is not known, although several theories, including mesenchymal, odontogenic, and histiocytic lineages of the lesion, have been proposed.[2,5] CD68 positivity, as seen in this case, is commonly reported and reflects the granular, lysosome-rich cytoplasm rather than true histiocytic differentiation.[2,5,6] Expression of S-100 protein in CGCE is variable and has been reported in a subset of cases, supporting its immunophenotypic heterogeneity.[2,5,6] So, in the appropriate neonatal clinical and histomorphological context, this immunoprofile supports the diagnosis of CGPE.

Sizeable masses can cause breathing difficulties and difficulties in airway management. Difficulties in Bag and mask ventilation and securing the airway may result.

Differential diagnoses of neonatal oral masses include haemangioma, lymphatic malformation, teratoma, rhabdomyosarcoma, and melanotic neuroectodermal tumor of infancy.[7] The characteristic histopathology, immunohistochemical profile, and benign clinical nature help in establishing the diagnosis. Recurrence has not been reported after complete excision.

CONCLUSION

Congenital granular cell epulis, though rare, should be considered in neonates presenting with rapidly growing oral masses. Histopathology supported by immunohistochemistry is crucial for diagnosis. Surgical excision is curative, and awareness of anesthetic challenges ensures safe perioperative management.

Conflict of Interest: None Declared

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Consent was taken from the parents of the child and the Institutional Ethics Committee to publish the clinical details and the clinical pictures.

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