CONGENITAL EPULIDIS: A LITERATURE REVIEW - FROM DIAGNOSIS TO TREATMENT

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Abstract: Introduction: Congenital epulis is a rare condition characterized by the growth of benign tumors in the oral cavity of newborns or young children. Although it is an uncommon disorder, it is important due to its impact on oral health and child development. Objective: This literature review aims to address the specificities of the diagnosis and treatment of Congenital Epulis. Methodology: The databases used were: National Center for Biotechnology Information, U.S. National Library of Medicine (PubMed), Scientific Electronic Library Online (SciELO) and Virtual Health Library (BVS), in English, Spanish and Portuguese. Fifty-three articles published between 2014 and 2024 were selected, and those that did not meet the inclusion criteria were excluded; only xx scientific articles were included in this work. Results: The studies show that ECGC is a rare condition, predominantly identified in female patients, reinforcing hypotheses related to hormonal factors. Surgical treatment has demonstrated high efficacy, with favorable prognosis and low incidence of recurrence. Discussion: Diagnosis is usually made through clinical examination, associated with imaging tests and biopsy, when necessary, to confirm the benign nature of the lesion. Even so, early diagnosis is limited in contexts with restricted access to resources, therefore, diagnosis tends to occur only after birth, through clinical and visual evaluation of the lesion. Conclusion: Congenital epulis requires an accurate diagnosis to ensure the exclusion of other more serious oral conditions. With uncertain etiology of the lesion, surgical treatment, in many cases, is curative and effective, and the prognosis for the child is generally positive.

Keywords: Congenital epulis, Pediatric dentistry, Differential Diagnoses.

INTRODUCTION

Congenital granular cell epulid (ECGC) is a rare/uncommon benign tumor that affects the oral mucosa of neonates. Despite being benign, this lesion can reach a large size and directly compromise weight gain, breathing and the development of the stomatognathic system, thus requiring surgical intervention. (Deus et al. 2021)

As for its etiology, the exact cause of this injury has not yet been elucidated, although several theories have been suggested. Among them, the origin of epithelial remains, undifferentiated mesenchymal cells, pericytes, fibroblasts, smooth muscle cells, nerve-related cells, and odontocytes have been proposed. In addition, an unproven theory proposes the involvement of endogenous hormonal stimulation, given the predominance of cases in female patients. (Jain et al. 2020)

With regard to clinical diagnosis, it can be made during intrauterine life, from the 27th gestational week, through imaging tests, such as three-dimensional ultrasonography and magnetic resonance imaging. Alternatively, it can be detected only at the time of birth, depending on the size of the lesion. (Aparna et al. 2014, Bianchi et al. 2015)

Clinically, GCEC presents, in most cases, as a firm nodule on palpation, pink in color and with a predilection for the anterior region of the maxilla. (Kokubun et al. 2018)

Regarding the therapeutic approach, the literature recommends the complete removal of the lesion in order to remedy the problems associated with its presence. Thus, after excision, the prognosis is favorable, since there are no significant rates of recurrence of the lesion. (Torresani et al. 2021)

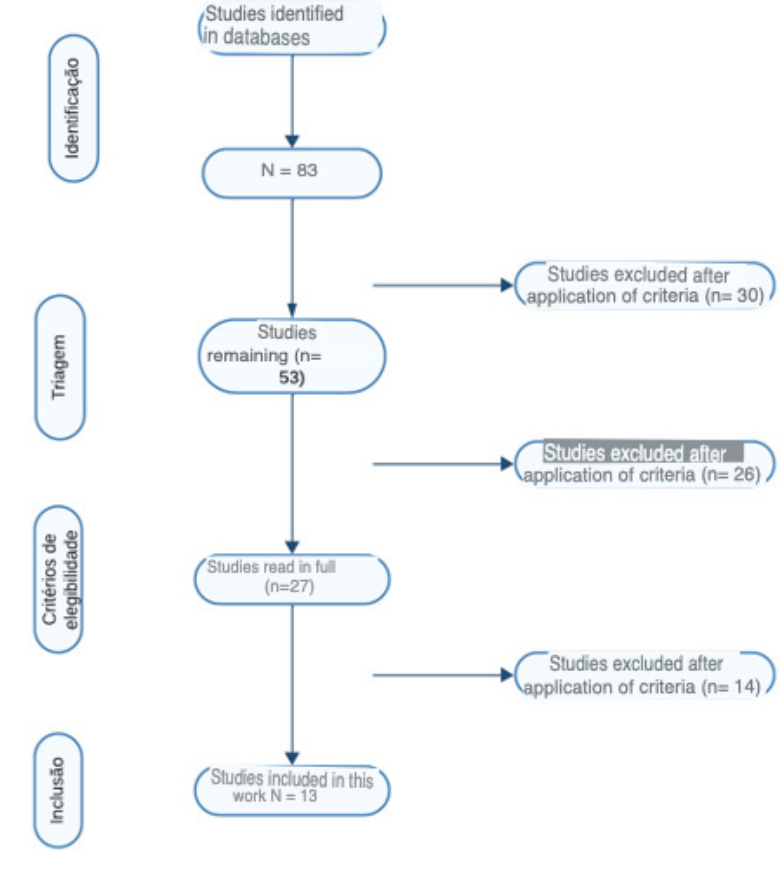
This study is relevant due to the scarcity of discussions about Congenital Epiplid among students and dentists, in addition to the limited availability of current research in databases. The objective of this study is to deepen the understanding of this condition, ranging from diagnosis to treatment, and thus contribute to the expansion of knowledge and improvement of clinical practices related to this theme.

METHODOLOGY

The systematization of this integrative literature review was based on a bibliographic search in the following databases: National Center for Biotechnology Information, U.S. National of Medicine (PubMed), Scientific Electronic Library Online (SciELO) and Virtual Health Library (VHL). The following descriptors were used to perform the DeCS/MeSH descriptors: “Gingival Diseases”,

“Granular Cell Tumor” and “Differential Diagnoses”.

A total of 53 articles published between 2014 and 2024 were selected, considering the following inclusion criteria: literature reviews and clinical case reports written in Portuguese, English, and Spanish, which addressed the diagnosis and treatment of congenital epulids in pediatric patients. The exclusion criteria were: articles published before 2014, congress abstracts, book chapters, studies with restricted access to full content, those involving other age groups, and those that were not related to the central theme of the research. Only xx scientific articles were included in this work.



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FINDINGS

In view of the careful review, the final set of studies had a total of 9 articles that met the readability criteria. Studies show that GCEC is a rare condition, predominantly identified in female patients, reinforcing hypotheses related to hormonal factors. Prenatal diagnosis was reported in part of the publications, while other cases were identified at birth. Surgical treatment demonstrated high efficacy, with a favorable prognosis and low occurrence of recurrences.

These results highlight the importance of further investigations on the etiology and clinical impact of the lesion, since, although rare, its proper identification and management can prevent complications that affect the development of the stomatognathic system in newborns.

Title	Authors and year	Goal	Methodology/ Main findings
Extensive congenital epullide in a newborn: diagnosis and treatment of a rare lesion	Ciro Borges Duailibe de Deus, João Victor Uchôa Silva, André Hergesel de Oliva, Wellington José Alves Nunes.(2021)	Report a case of diagnosis and treatment of a newborn with congenital epullid of large proportions.	Congenital epullid, as it is a rare condition, is often underdiagnosed and confused with vascular lesions, therefore, the multidisciplinary approach directs the diagnosis and treatment of Properly.
Large Congenital Epulid in Newborns: Diagnosis and Treatment	Neha Jain , Pallavi Sinha, Lavleen Singh. (2020)	A case of large epulid in a newborn causing feeding and breathing difficulties that were treated with immediate surgical intervention.	Epulid is a benign mass and no metastasis has been reported to date. Due to its location and size, it can cause mechanical obstruction, leading to feeding difficulty, cyanosis, dyspnea, and has the potential to cause death of the child by asphyxiation during the perinatal and postnatal period.
Congenital epullide in newborns: case report, immunoprofiling and literature review	H G Aparna, B S Jayanth, R Shashidara, P Jaishankar (2014)	It reports a case of congenital epullide in a female newborn in the right alveolar crest, along with an extensive review of the literature and discussing immunoprofiling.	Early diagnosis of CAC in a newborn is of paramount importance in the successful treatment of these rare cases.

Multiple congenital granular cell epulids: case report and immunohistochemical profile with emphasis on vascularization	Patrícia Roccon Bianchi, Vera Cavalcanti de Araujo, José Wagner Banterli Ribeiro, Fabricio Passador-Santos, Ney Soares de Araujo, Andresa Borges Soares (2015)	A rare case report of a female newborn presented with two exophytic pedunculated red nodules located on the alveolar crest between the future eruption sites of the incisors and canines of the mandible and maxilla.	Understanding this lesion is essential for the correct diagnosis and appropriate treatment. The immunohistochemical profile confirmed the increase in vascularization, proving that these lesions are composed not only of new and preexisting blood vessels, but also of lymphatic vessels.
Congenital epulid: a case and literature review	Katsutoshi Kokubun, Kenichi Matsuzaka, Yoshihiko Akashi, Masami Sumi, Kei Nakajima, Satoshi Murakami, Masato Narita, Takahiko Shibahara, Takashi Inoue (2018).	A case of congenital epullide (20×10 mm) in the mandibular gingiva of a newborn. The mass, with a smooth and pedunculated surface with a healthy color, was surgically removed 5 months after birth.	Histologically, the tumor consisted mainly of large eosinophilic granule cells. Immunohistochemical studies revealed intense staining for vimentin, STRO-1 and CD44, suggesting that it was derived from mesenchymal cells.
Epulis of congenital granule cells of the newborn: importance of prenatal diagnosis.	Torresani E, Girolami I, Marletta S, Eccher A, Ghimenton C. (2021)	This paper analyzes a case of multiple CGCE in a female newborn discovered at birth, along with a brief review of the pathogenesis, differential diagnoses, and treatment implications of early diagnosis.	This entity should be suspected before birth because of the important implications for delivery management choices and to avoid excessive surgical treatment, keeping in mind that the final diagnosis depends on histopathological examination after surgery.
Congenital epulide	The Lapid, R Shaco-Levy, and Krieger , L Kachko , A Sagi (2001).	Epulis is seen only in the newborn and is a different entity from other granular cell tumors.	The recommended treatment is immediate surgical resection. Tumor recurrences and damage to future dentition have not been reported, suggesting that radical excision is not warranted.
Congenital granular cell epulis: a rare pediatric tumor of newborn	Xavier, Arun Mamachan et al. (2022)	The diagnosis of GCCE in a child is discussed, including its clinical presentation, histopathological findings, and surgical management.	The CGCE is composed of large, granular cells, with an abundant amount of cytoplasm, and is lined with epithelium of oral origin. Histology is typical, with cells that appear to originate from the cells of the gum tissue.

Congenital Epulis: A Case and Review of the Literature	KOKUBUN, K.; MATSUZAKA, K.; AKASHI, Y.; SUMI, M.; NAKAJIMA, K.; MURAKAMI, S.; NARITA, M.; SHIBAHARA, T.; INOUE, T. (2018)	To present a clinical case of congenital epullide and to review the existing literature on this rare condition, with emphasis on the clinical and histopathological aspects and treatment of the disease.	The literature review confirms that congenital epulide is rare, with most cases being diagnosed at birth or in the first days of life. Although it is a benign condition, early resection is essential to avoid complications.
Congenital granular cell tumor of the newborn-Spontaneous regression or early surgical intervention.	DHAREULA, A.; JAISWALL, M.; FOYAL, A.; GARUBA, K. (2018)	Explore the diagnosis, clinical course, and treatment options, and discuss whether early surgical treatment is necessary or whether the tumor may undergo spontaneous regression.	This study contributes to the understanding of the management of congenital granular cell tumor, highlighting the possibility of spontaneous regression and providing information on when surgical intervention is necessary.
Prenatal diagnosis of congenital epullid using three-dimensional ultrasonography.	Davidson TM, Gibbons MD. (2008)	Listen to the use of three-dimensional ultrasonography (3D USG) for the prenatal diagnosis of congenital epiplid.	This article contributes to the field of prenatal diagnosis by showing how three-dimensional ultrasound can be an effective tool in the identification of oral anomalies such as congenital epullid.
Congenital epullide of the newborn: A systematic review of 174 cases reported in the literature.	Chrcanovic BR, Guimarães LM, Gomes CC, Gomez RS. (2010)	It conducts a systematic review of 174 cases of congenital epullide published in the literature, with the aim of providing a comprehensive analysis of the condition.	This study provides a complete view of congenital epullid, highlighting its frequency, clinical and histological characteristics.

DISCUSSION

GCEC, although a rare lesion, has clinical and histological characteristics that make its diagnosis and management essential for the maintenance of neonatal health. According to the studies included, the predominance of female neonates reinforces the hypotheses of hormonal influence on the pathogenesis of the lesion, even though the exact etiology remains uncertain. The proposal is that endogenous hormonal stimuli can act as triggers and reinforced by high frequency in female

individuals, but there are no robust studies that confirm this relationship. (Lapid et al. 2001)

Clinically, the epulid manifests as a single nodule with a sessile or pedicled base, with an elastic-fibrous consistency and a reddish hue. It is usually parallel to the midline, in the region of growth of the lateral incisor and canines, recurrently located in the alveolar rim of the maxilla, although it can also occur in other sites such as the mandibular alveolar ridge and on the tongue. (Xavier et al. 2022) Regarding size, it can present variations from 0.8 cm to 0.20 cm, according to the cases reported in the literature. Although rare/unusual, multiple ECCG lesions may present in approximately 10% of cases. (Torresani et al. 2021, Kokubun et al. 2018, Dhareula et al. 2018)

Technological advances, such as the use of three-dimensional ultrasonography and magnetic resonance imaging, have expanded the possibilities of prenatal diagnosis, allowing the identification of lesions as early as the 27th week of gestation. Despite this, there are limitations to early diagnosis, especially in scenarios with restricted access to these resources. In these cases, the diagnosis tends to occur only after birth, through clinical and visual evaluation of the lesion. This temporal variability of the diagnosis can directly impact the therapeutic planning and the approach to the cases. Surgical management was reiterated as the best therapeutic approach, given the benign nature of the lesion and its low probability of recurrence. (Davidson and Gibbons 2008)

Complete excision, in addition to resolving the specific potential complications related to tumor growth, such as breathing and feeding difficulties, also contributes to improving the quality of life of the newborn and his family. The positive prognosis reported in the reviewed studies reinforces the efficacy of this intervention. In addition, the reviewed literature emphasizes the need for greater awareness among health professionals, especially dentists and pediatricians, about the GCEC. The scarcity of epidemiological data and longitudinal studies limits the comprehensive understanding of the condition, which tends to occur only after birth, through clinical and visual evaluation of the lesion. (Chrcanovic et al.2010)

Finally, this study highlights the relevance of research on GCS, contributing to the improvement of technical-scientific knowledge and to the reduction of gaps in pediatric dentistry and

neonatal surgical practice.

FINAL CONSIDERATIONS

Congenital epullid, although a rare condition, is a benign lesion that affects the oral mucosa. Although it is benign, it can end up affecting weight gain, breathing, and stomatognathic development, requiring surgical intervention. The etiology of the lesion remains uncertain, and the role of endogenous hormonal stimulation is considered unproven, due to the higher incidence in female patients. GCEC usually presents as a firm, pink nodule with a predilection for the anterior region of the maxilla. The indicated treatment is complete removal of the lesion, with a favorable prognosis and low chance of recurrence. This article contributes significantly to the field of health, as it addresses a rare and little-discussed condition and results in a lack of knowledge that can negatively impact the prognosis of patients.

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