


Epulis granulomatosa epulis in a pediatric patient

Beatriz Menegon Valvano ^{1*}
Bruno Teixeira Gonçalves
Rodrigues ²
Mário José Romãach ³
Bruno Augusto Benevenuto
de-Andrade ⁴
Mônica Simões Israel ⁴

Abstract:

Introduction: Epulis granulomatosa is a post-surgical lesion emanating from an extraction socket. It can be misdiagnosed with other lesions that have similar clinical appearances, such as foreign body and pyogenic granuloma. Excisional biopsy stands as its gold-standard treatment followed by histopathological analysis in order to establish the diagnosis. **Objective:** The aim of the present study was to report an illustrative case of epulis granulomatosa occurring after tooth extraction in a pediatric patient. **Case Report:** A 5-year-old boy claiming about an exophytic lesion in the alveolar mucosa at the anterior region of the mandible was noticed after deciduous lower right central incisor tooth extraction. Diagnosis of granulomatous epulis was confirmed after histopathological examination performed through excisional biopsy. **Conclusion:** The patient's recovery was uneventful, and no signs of local recurrence could be observed up to this date. **Keywords:** Gingival Diseases; Child; Tooth Extraction.

¹ State University of Rio de Janeiro, Department of Diagnosis and Therapeutics - Rio de Janeiro - Rio de Janeiro - Brasil.

² State University of Rio de Janeiro, Department of Diagnosis and Therapeutics - Rio de Janeiro - Rio de Janeiro - Brasil

³ Federal University of Rio de Janeiro, Department of Oral Diagnosis and Pathology - Rio de Janeiro - Rio de Janeiro - Brasil

⁴ Federal University of Rio de Janeiro, Department of Oral Diagnosis and Pathology - Rio de Janeiro - Rio de Janeiro - Brasil

⁵ State University of Rio de Janeiro, Department of Diagnosis and Therapeutics - Rio de Janeiro - Rio de Janeiro - Brasil

Correspondence to:
Beatriz Menegon Valvano.
E-mail: beatriz.menegonv@gmail.com

Article received on September 10, 2021.
Article accepted on April 18, 2022.

DOI: 10.5935/2525-5711.20220001



INTRODUCTION

Epulis granulomatosa (EG) is a vascular lesion characterized by granulation tissue growth in a recently extracted tooth socket. The tissue growth represents a response to the presence of bone spicules or tooth fragments, thus resulting in the formation of granulation as a way of trying to repair or cure the injured site. Therefore, EG is an inflammatory reaction ^{1,2}.

Clinically, EG presents as a smooth or lobulated exophytic lesion with pedunculated or sessile base. The surface color ranges from pink to red or purple, depending on the duration of the lesion ³.

The microscopic examination shows a chronic inflammatory granulation tissue with multiple blood vessels. Dense chronic inflammatory cells infiltration, mostly lymphocytes, is also evidenced ^{1,2}. EG treatment consists of the complete excision of the lesion followed by histopathological examination of the tissue to confirm the diagnosis ³. Recurrency is rarely observed, since the excision eliminates the stimulus for the inflammatory reaction ².

The aim of the present study was to report an illustrative case of epulis granulomatosa occurring after tooth extraction in a pediatric patient.

CASE REPORT

A 5-year-old boy was referred for evaluation of a non-tender exophytic lesion located in the anterior alveolar mucosa of the mandible with an 1-week lasting - noticed after the deciduous right central mandibular incisor tooth extraction. Intraoral examination showed an erythematous nodular lesion located in the permanent right mandibular central incisor alveolus with smooth surface (Figure 1). The clinical diagnosis was of epulis granulomatosa. An excisional biopsy under local anesthesia was performed and the specimen was submitted to the Oral Pathology laboratory. The specimen was submitted to routine laboratory procedures and the microscopic examination of the excised soft tissue revealed a vascular proliferation and granulation tissue growth (Figures 2). Due to the clinical and histopathological findings the diagnosis of epulis granulomatosa was confirmed. The patient recovery was uneventful and there are no signs of recurrence and the permanent mandibular right central incisor tooth has erupted in a one-year clinical follow-up (Figure 3).



Figure 1. Clinical aspect of the alveolar mucosa showing an exophytic nodular lesion.

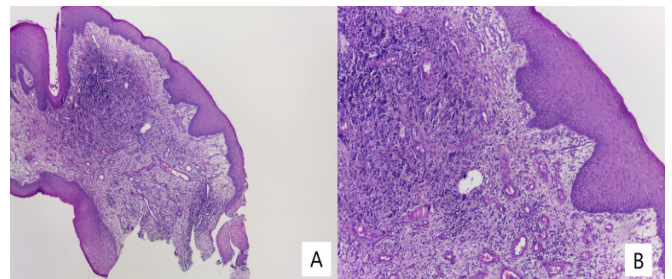


Figure 2. (A) Microscopic examination showing an exophytic increase of granulation tissue. (B) Proliferation of blood vessels.



Figure 3. Clinical aspect showing tooth 41 has emerged and no sign of recurrence was shown after a 1-year follow-up.

DISCUSSION

Epulis granulomatosa is characterized by the development of an exophytic lesion due to the growth of tissue inside the recently extracted tooth socket¹⁻⁴. Clinical development of the lesion is fast, asymptomatic and painless, but it may also grow slowly. Bleeding caused by EG can easily happen due to the proliferation of numerous blood vessels of different calibers^{1,2,4}. In the present study, a fast development was observed, and no symptoms or pain were present.

It is clinically similar to foreign body or pyogenic granuloma and due to this it can be misdiagnosed^{1,4}. Lesions such as hemangioma, giant cell granuloma, pulse or vegetable granuloma can be considered as a differential diagnosis for epulis granulomatosa. This fact is due to the clinical appearance of the lesion which appears as a hemorrhagic mass².

Epulis granulomatosa is also called epulis hemangiomatosa explaining the significant presence of numerous blood vessels that are formed in the lesion. The literature suggests that this is the reason this lesion has an exuberant clinical growth since this is the pattern found in every injury^{2,4}.

Management of epulis granulomatosa depends on the clinical manifestation, but surgical removal is the recommended treatment, such as the removal of local irritative factors³ - as performed in this case. The excision should be given with wide margin, resection of a large portion of healthy tissue around the lesion including some bone⁵. The literature states that adequate excision usually causes the healing of the lesion and clinical diagnosis without biopsy followed by histopathological examination could lead to misinterpretation^{1,3,4}.

Other non-surgical treatments are described in the literature, such as high-intensity laser therapy, electrosurgery, injection of corticosteroids, however, the efficacy of these procedures remains uncertain^{1,5}.

Recurrence may occur and it is believed to result from incomplete excision, failure to remove etiologic factors or re-injury of the area. Careful inspection of the extraction socket is recommended to check for the

presence of remnants of bone or tooth structure, even fragments of cementum, to prevent an inflammatory reaction². Clinical follow-up is indispensable to detect local recurrences. In the present report, the patient has been in a clinical follow-up for 1 year and no sign of recurrence could be observed up to this date.

CONCLUSION

Epulis granulomatosa is an asymptomatic vascular lesion with fast development - usually occurring as a post-surgical inflammatory response to bone spicules or tooth fragments in a recently extracted tooth socket. EG treatment consists in the complete removal of the lesion, showing good prognosis and a low recurrence rate. However, pediatric patients should continue in a clinical follow-up to assure the eruption of the permanent successor uneventfully.

CONFLICT OF INTEREST

The authors declare they have no conflict of interest

AUTHORS CONTRIBUTIONS

Beatriz Valvano, Bruno Teixeira Gonçalves Rodrigues, Bruno Augusto Benevenuto, Mário José Romañach and Mônica Simões Israel contributed to the study design, final data analyses, and manuscript writing and editing.

REFERENCES

1. Ghadimi S, Chiniforush N, Najafi M, Amiri S. Excision of epulis granulomatosa with diode laser in 8 years old boy. *J Lasers Med Sci*. 2015;6(2):92-5.
2. Manovijay B, Rajathi P, Fenn SM, Ekar B. Recurrent epulis granulomatosa: a second look. *J Adv Clin Res Insights*. 2015;2:140-2.
3. Cai Y, Sun R, He KF, Zhao YF, Zhao JH. Sclerotherapy for the recurrent granulomatous epulis with pingyangmycin. *Med Oral Patol Oral Cir Bucal*. 2017 Mar;22(2):e214-e8.
4. Leong R, Seng GF. Epulis granulomatosa: extraction sequelae. *Gen Dent*. 1998 May/Jun;46(3):252-5.
5. Liu C, Qin ZP, Fan ZN, Zhao WJ, Wang YM, Wei FC, et al. New treatment strategy for granulomatous epulis: intralesional injection of propranolol. *Med Hypotheses*. 2012 Feb;78(2):327-9.