Granulomous foreign body reaction simulating aggressive tumor of the mandible

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October 13, 2022

Abstract

Inflammatory granuloma caused by a vegetable foreign body is a lesion that can develop in the oral cavity. It results from the implantation of a vegetable, leading to an inflammatory reaction and the development of an aggressive osteolysis. This case highlights importance of clinicians' awareness regarding this uncommon disorder

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Keywords:

Mandible; granuloma; foreign body; radiography, panoramic; osteolysis; tomography, X-ray computed.

A 7-year-old patient, in good general condition, consulted for a painful right lower genian mandibular tumefaction persisting for more than a month with inflamed skin. On palpation, the swelling was indurated and difficult to mobilize in deep planes. The patient had multiple mobile cervical adenopathies in the jugulocarotid and spinal chains.

Intraoral examination revealed an ill-defined vestibular redness facing the erupting right mandibular first molar (46), which was painful to percussion. On probing, it showed a distal pocket of 8 millimeters in depth.

Panoramic radiograph (Figure 1A) was featureless. CT scan revealed a well-limited hypodense image without a condensation line, facing the vestibular side of the (46) and destroying the vestibular table from the outset with an appearance of osteolysis of cancellous bone all around (Figure 1C, D, E). Plurilamellar periosteal reaction was also noted (Figure 1B). Narrow window sections (Figure 1F, G) revealed thickening of the masseter muscle and partially of the buccinator. Radioclinical confrontations were then in favor of a potentially aggressive lesion. Biopsy confirmed the diagnosis of a vegetable foreign body inflammatory granuloma (Figure 1H). The treatment was the removal of the skin lesion with bone cavity curettage. The evolution was favorable.

The current case represents an uncommon oral disorder, known as foreign-body reaction, resulting from the implantation of food vegetable particles. This rare clinical entity has received several nomenclatures, of which hyaline ring granuloma is the most current. According to the literature, it occurs in several areas, including the lung, gastrointestinal tract, and oral cavity. Women are less affected than men, with the highest incidence in adults. The mandible is more affected than the maxilla. This pathology is mostly reported in edentulous patients using prosthesis, and it is associated with odontogenic cyst walls, extraction sockets, deep periodontal pockets, and partially erupted teeth as in the present case [1]. It was an unusual oral osseous lesion in a child, with clinical and radiographic features possibly leading to misdiagnosis and inadequate treatment, including an excessively aggressive approach[2]. Once aware of this disorder, clinicians may prevent it, provide the proper diagnosis, and indicate the appropriate treatment.

Conflict of interest: The authors declare that they have no conflicts of interest.

Funding : This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

A consent statement: A written informed consent was obtained in accordance with the journal's patient consent policy.

Data availability statement: The data that support the findings of this study are available from the corresponding author upon reasonable request.

Authors' contribution: Dr. R. K. contributed to the study design, radiographs' analysis, and writing of the paper. Dr. I. CH. and Dr. R. Z. contributed to the study design and radiographs' analysis. Dr. B.S. participated in the realization and interpretation of the histological sections. Dr. T. BA. supervised the study, contributed to radiographs' analysis, and to the writing of the paper.

Figure's legend

Figure 1: (A) Panoramic radiography: no noticeable image regarding 46. **(B)** Axial CT section: Plurilamellar periosteal reaction at the vestibular cortex in front of 46 (white arrows).**(C)** Axial CT section: osteolysis (star) in front of 46 with deformation and destruction of the vestibular cortex (black arrows).**(D)** Coronal CT section: osteolysis in continuity with the oral cavity through a periodontal pocket (white arrowhead). **(E)**Sagittal CT reconstruction: destruction of the vestibular cortex.**(F-G)** Axial and coronal CT sections in a narrow window: thickening of the masseter muscle (M) with extension towards the buccinator (B). **(H)** Microscopic observation: polymorphic granulation tissue of lymphocytes, plasmocytes, neutrophils, and mutinucleated giant cells, surrounding in some areas vegetable debris associated with numerous hyperplastic vessels.

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