Cemento-ossifying fibroma of the posterior mandible

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Accepted 27 February 2026

DESCRIPTION

An adolescent girl presented to the clinic with complaints of swelling in her lower left cheek of 6 months duration. An extra-oral clinical examination indicated diffuse swelling in the left parasymphysis region (figure 1). Intraorally, significant swelling of 4 by 4 cm was noted in the left buccal vestibule region next to teeth #34, #35 and #36 (figure 2). It was determined that teeth #34 and #35 are vital, while tooth #36 is not, after the vitality test (electric pulp test).

A well-defined mixed lesion, primarily radio-opaque, was noted on an intraoral periapical radiograph related to teeth #34, #35 and #36, extending from the distal aspect of #34 to the mesial aspect of #36. Loss of lamina dura was noticed distal to #34 and mesial to #36 (figure 3). A true mandibular left occlusal radiograph was taken to assess buccolingual cortical enlargement, which showed cortical expansion mainly on the buccal aspect (figure 4). A panoramic radiograph observed a well-defined mixed lesion with sclerotic scalloped margins, predominantly radio-opaque and measuring approximately 3.7×3.3 cm, on the left body of the jaw (figure 5). The lesion extended vertically from the alveolar margin to the inferior border of the jaw, encompassing the periapical region of teeth #34, #35 and #36. The inferior alveolar canal showed inferior displacement. Displacements of the roots of teeth #35 and #36 were noted (figure 6).

A provisional diagnosis of either an odontogenic tumour or a fibro-osseous lesion was established based on the findings from the radiological and clinical assessments. An incision biopsy was advised. The biopsy findings indicated several clumps of grey-brown tissue fragments measuring 1×1×0.5 cm. All the embedded grey-white fragments were discernible in the sectioned area. Numerous pieces of osseous tissue and a tumour of spindle cell sheets, interspersed with irregular eosinophilic material foci encircled by calcific deposits, were observable microscopically. The biopsy results established a definitive diagnosis consistent with cemento-ossifying fibroma (COF) morphology. After the written informed consent, the lesion was surgically enucleated. The patient was evaluated 1 week post-surgery for suture removal and healing assessment. The patient was subsequently assessed once a month for the initial 3 months. The plans include a 6-month follow-up to monitor for recurrence.

Figure 1 Facial profile photograph showing the facial asymmetry and diffuse swelling in the left parasymphysis region.

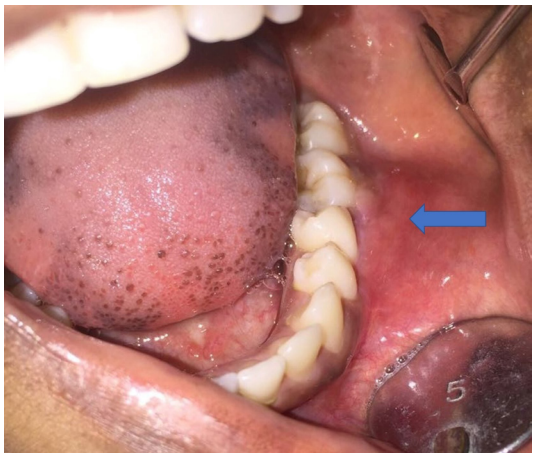

Figure 2 Intraoral photograph showing the swelling in the left buccal vestibule region next to teeth #34, #35 and #36.

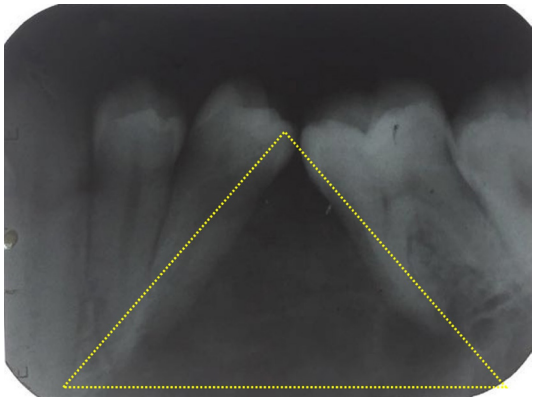

Figure 3 Periapical radiograph showing a well-defined mixed lesion, primarily radio-opaque, related to teeth #34, #35 and #36, extending from the distal aspect of #34 to the mesial aspect of #36. Loss of lamina dura was noticed distal to #34 and mesial to #36.

To cite: Rehman A, Baloch FA, Taleb A, *et al*. *BMJ Case Rep* 2026;**19**:e265497. doi:10.1136/bcr-2025-265497

Figure 4 True mandibular left occlusal radiograph showing the cortical expansion mainly on the buccal aspect.

Cemento-ossifying fibroma is a rare benign fibro-osseous neoplasm that primarily affects the mandible and jaw bones. These lesions arise from the periodontal ligament and are a distinct, progressively enlarging lesion of fibrous tissue and mineralised material.[1] COF must be differentiated from fibrous dysplasia, cemento-osseous dysplasia and odontogenic tumours like ameloblastoma.[2] COF manifests as a distinctly delineated lesion, in contrast to the indistinct margins of fibrous dysplasia.[3] COF, frequently encircled by osteoblasts, histologically exhibits a fibrous stroma including spindle cells and varying amounts of cementum-like and osseous material.[3] Considering its prevalence among young individuals, as demonstrated in our case, it emphasises the significance of early identification.[2 4] Enucleation and curettage are effective treatments for COF. Because of its well-defined characteristics, recurrence rates are minimal. Early diagnosis is vital to prevent functional and cosmetic issues.[5]

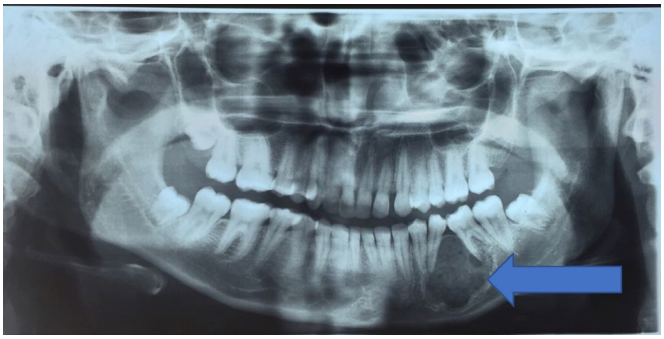

Figure 6 Panoramic radiograph showing the well-defined mixed lesion with sclerotic scalloped margins on the left body of the jaw. The lesion extended vertically from the alveolar margin to the inferior border of the jaw, encompassing the periapical region of teeth #34, #35 and #36. The inferior alveolar canal showed inferior displacement. Displacements of the roots of teeth #35 and #36 were noted.

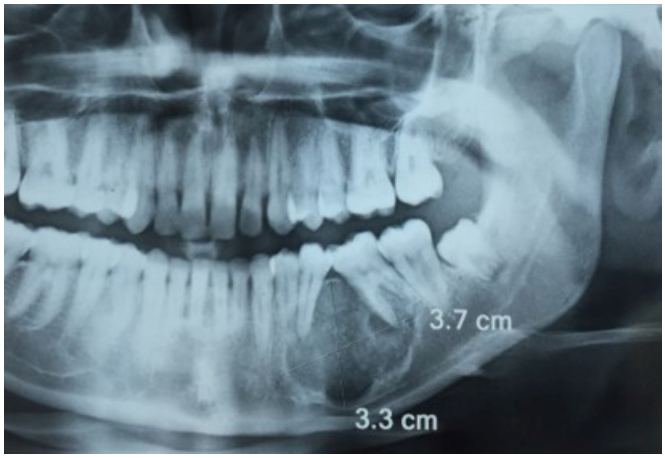

Figure 5 Cropped panoramic radiograph showing the lesion's size (3.7×3.3 cm).

This example illustrates the importance of clinical, radiological and histological correlation in diagnosing COF. Surgical excision ensures favourable outcomes, highlighting the necessity of vigilance in managing jaw swellings in adolescents.[6] Further study is necessary to enhance long-term outcomes and treatment methodologies.

Learning points

- Cemento-ossifying fibroma must be considered in the differential diagnosis of jaw swellings in adolescents to ensure prompt detection and intervention.
- Radiographic and histological assessments are essential for precise diagnosis and for distinguishing the fibro-osseous condition from others.
- Surgical excision is the preferred treatment due to its low recurrence rate and favourable prognosis when discovered early.

Contributors The following authors were directly involved in the patient's care: FAB and NAK. The following authors were not directly involved in the patient's care; they contributed to the manuscript by: AR and AT. The following author is the clinician in charge of the clinical care of the patient, who supervised the preparation of the manuscript, was responsible for obtaining informed consent from the patient/guardian/family members and is responsible for the overall integrity of the content of the manuscript: NAK. Guarantor name and preferred contact details: NAK.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Consent obtained directly from patient(s).

Provenance and peer review Not commissioned; externally peer reviewed.

Case reports provide a valuable learning resource for the scientific community and can indicate areas of interest for future research. They should not be used in isolation to guide treatment choices or public health policy.

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