



COMPOUND ODONTOMA ODONTOGENIC TUMOR: A RADIOGRAPHIC FINDING IN A PATIENT WITH CHRONIC PERIODONTITIS — CLINICAL CASE REPORT WITH CONSERVATIVE MANAGEMENT¹

Bruno Lucena Antunes ABRANTE

University of São Paulo – School of Dentistry (FOUSP)
Secretaria de Saúde de São Bernardo do Campo – SP, Brasil
E-mail: bruno.l.antunes@usp.br
ORCID: <http://orcid.org/0000-0002-7680-2144>

Alice Queiroz Rodrigues de MENEZES

Multiprofessional Resident in Family and Community Health, Health
Department of São Bernardo do Campo, SP, Brazil
E-mail: alicequeirozrm@gmail.com
ORCID: <https://orcid.org/0009-0005-4467-145X>

Débora Cristina Tochetti Perin DURANTE

Director of the Oral Health Division, São Bernardo do Campo
E-mail: debora.durante@saobernardo.sp.gov.br
ORCID: <http://orcid.org/0009-0004-2342-5746>

Samira Cristina Oliveira BALBO

Director of the Oral Health Division, São Bernardo do Campo
E-mail: samira.balbo@saobernardo.sp.gov.br
ORCID: <http://orcid.org/0009-0006-0779-6680>

Mariana Serafini Salvador de MATTOS

Director of the Oral Health Division, São Bernardo do Campo
E-mail: mariana.mattos@saobernardo.sp.org.br
ORCID: <http://orcid.org/0009-0000-1268-8242>

Catharina Simioni de ROSA

University of São Paulo – School of Dentistry (FOUSP), Department of
Stomatology, Brazil
Email: catharina.rosa@unicid.edu.br
ORCID: <http://orcid.org/0000-0001-5972-4386>

Luciana MUNHOZ

Graduate Program in Pathology, Ribeirão Preto Medical School – University of
São Paulo (USP), Brazil
Email: dra.lucianamunhoz@gmail.com
ORCID: <http://orcid.org/0000-0003-2375-5935>

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ABSTRACT

Odontoma is the most common odontogenic tumor, usually asymptomatic and incidentally diagnosed on radiographic examinations. This report describes the case of a 62-year-old Black female patient who sought dental care due to tooth mobility in her lower posterior teeth. The periodontal clinical examination, along with periapical radiographs, revealed generalized chronic periodontitis with grade 3 tooth mobility, requiring tooth extractions (Nunes et al, 2025). During the planning for extractions, a preoperative panoramic radiograph was requested, which showed the presence of a compound odontoma in the anterior region of the mandible, associated with an impacted tooth 43 in a horizontal position. The patient was asymptomatic and had no previous knowledge of any pathological condition in the maxillomandibular complex (Abrante et al, 2025a; Abrante et al, 2025b; Sousa et al, 2018). In the absence of symptoms and alterations associated with the compound odontoma, a conservative approach was adopted, with annual radiographic follow-up and suggested rehabilitation with removable dentures (Memarpour et al, 2025). The case reinforces the importance of combining clinical examination and imaging evaluation in dental practice, especially in situations requiring a more precise diagnosis. Although this pathology is usually identified in youth due to the absence of permanent tooth eruption, in this case, the diagnosis was made later in life due to the lack of imaging examinations during the patient's childhood and adolescence (Memarpour et al, 2025). Thus, the diagnosis of a developmental odontogenic tumor of the compound odontoma type was made incidentally, and annual follow-up was considered the most appropriate approach for this case (Abrante et al, 2025a; Abrante et al, 2025b; Memarpour et al, 2025; Sousa et al, 2018).

Keywords: Compound odontoma. Odontogenic tumors. Advanced periodontitis. Panoramic radiography. Conservative management.

RESUMO

O odontoma é o tumor odontogênico mais comum, geralmente assintomático e diagnosticado incidentalmente em exames radiográficos. Este relato descreve o caso de uma paciente do sexo feminino, negra, de 62 anos, que procurou atendimento

odontológico devido à mobilidade dentária em região posterior inferior. O exame clínico periodontal, associado às radiografias periapicais, revelou periodontite crônica generalizada com mobilidade grau 3, indicando exodontias (Nunes et al., 2025). Durante o planejamento das extrações, foi solicitada uma radiografia panorâmica pré-operatória, que evidenciou a presença de um odontoma composto na região anterior da mandíbula, associado ao dente 43 incluso em posição horizontal. A paciente era assintomática e não possuía conhecimento prévio de qualquer condição patológica no complexo maxilomandibular (Abrante et al, 2025a; Abrante et al, 2025b; Sousa et al., 2018). Na ausência de sintomas e alterações associadas ao odontoma composto, optou-se por uma abordagem conservadora, com acompanhamento radiográfico anual e indicação de reabilitação com prótese removível (Memarpour et al, 2025). O caso reforça a importância da associação entre exame clínico e avaliação por imagem na prática odontológica, especialmente em situações que exigem diagnóstico mais preciso. Embora essa patologia seja geralmente identificada em indivíduos jovens, devido à ausência de erupção dentária, neste caso o diagnóstico foi realizado tardiamente, em decorrência da ausência de exames de imagem durante a infância e adolescência (Memarpour et al, 2025). Assim, o diagnóstico de tumor odontogênico de desenvolvimento do tipo odontoma composto foi realizado de forma incidental, sendo o acompanhamento anual considerado a conduta mais adequada para o caso (Abrante et al, 2025a; Abrante et al, 2025b; Memarpour et al, 2025; Sousa et al, 2018).

Palavras-chave: Odontoma composto. Tumores odontogênicos. Periodontite avançada. Radiografia panorâmica. Manejo conservador.

INTRODUCTION

Odontomas are the most common odontogenic tumors and are usually discovered incidentally during routine imaging examinations (Oliveira; Campos; Marçal, 2001; Philipsen; Reichart, 2005; Neville et al, 2016). The compound type is characterized by the presence of multiple tooth-like structures and is more frequently observed in the anterior maxilla (Macdonald-Jankowski, 2004; Regezi; Sciubba; Jordan, 2017).

Although odontomas are generally diagnosed in the first and second decades of life, they may remain asymptomatic and undetected for years (Hitchin, 1971; Budnick, 1976; Memarpour et al, 2025). Radiographic imaging plays a fundamental

role in their detection, especially panoramic radiography and cone beam computed tomography (CBCT) (White; Pharoah, 2019; Scarfe; Farman, 2008; Patel et al, 2019).

CLINICAL CASE REPORT

A 62-year-old Black female patient presented to the dental service reporting mobility of the lower posterior teeth and progressive difficulty chewing. She denied pain, systemic diseases, or continuous use of medications.

In the clinical examination (Figure 1 and Figure 2), some missing teeth were observed.

FIGURES

Figure 1: Intraoral view of the mandible



Source: Author.

Figure 2: Intraoral view of the maxilla.



Source: Author.

RADIOGRAPHIC EVALUATION

In the panoramic radiograph (Figure 3), a mixed-density lesion is observed in the anterior region of the mandible, on the right side, near the topography of tooth 43. The image shows multiple well-defined radiopaque areas, resembling small dentiform structures, organized in a block, compatible with a compound odontoma.

The adjacent radiolucent areas partially surround the radiopaque components, suggesting the presence of follicular tissue or a surrounding fibrous capsule. Tooth 43 is impacted, in a horizontal position, with the crown facing mesially and in close relation to the odontoma, suggesting interference with its eruption.

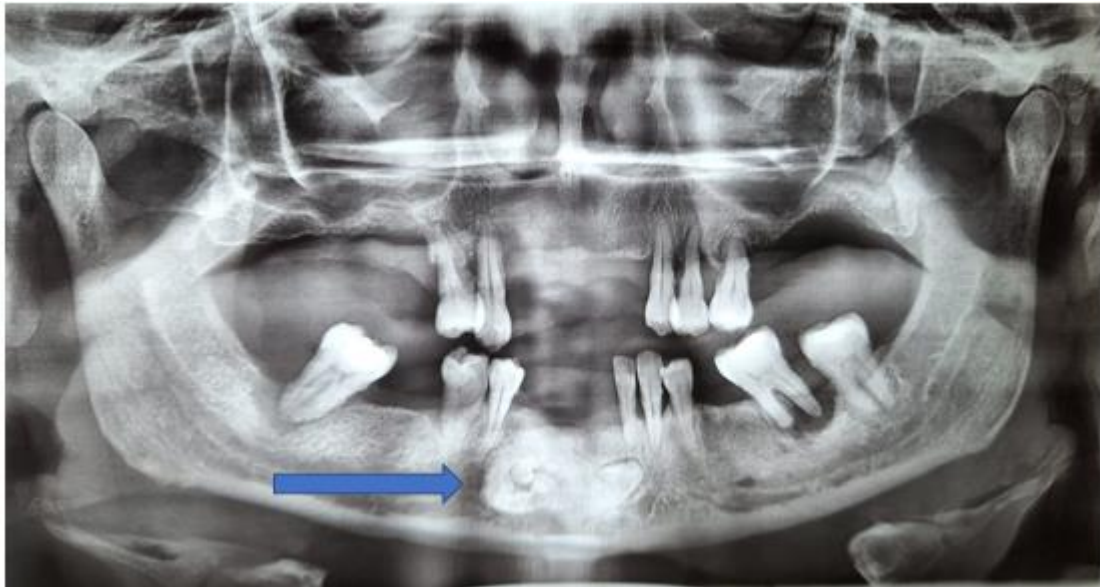
No root resorption of adjacent teeth or signs of cortical bone expansion or rupture were observed.

This is an asymptomatic radiographic finding, compatible with an impacted compound odontoma associated with impacted tooth 43.

Image description:

Figure 3 - Initial panoramic radiograph. A compound odontoma is observed in the anterior region of the mandible, with well-defined dentiform structures associated with an impacted tooth 43 in horizontal position. Severe bone loss is noted in the maxilla and mandible, compatible with generalized chronic periodontal disease.

Figure 3: Pre-extraction panoramic radiograph .



Source: Author.

CLINICAL MANAGEMENT

Given the unfavorable periodontal prognosis, multiple extractions were performed on the teeth with severe mobility.(Oliveira; Campos; Marçal, 2001; Gómez; Vargas; Rodríguez; Solís *et al*, 2025; Junior; Melo; Silva; Sena Silva *et al*, 2025)

The patient had no clinical or anatomical conditions for implant rehabilitation, so removable dentures were indicated.(Khalifa; Omami; Garma; Slim *et al*, 2022)

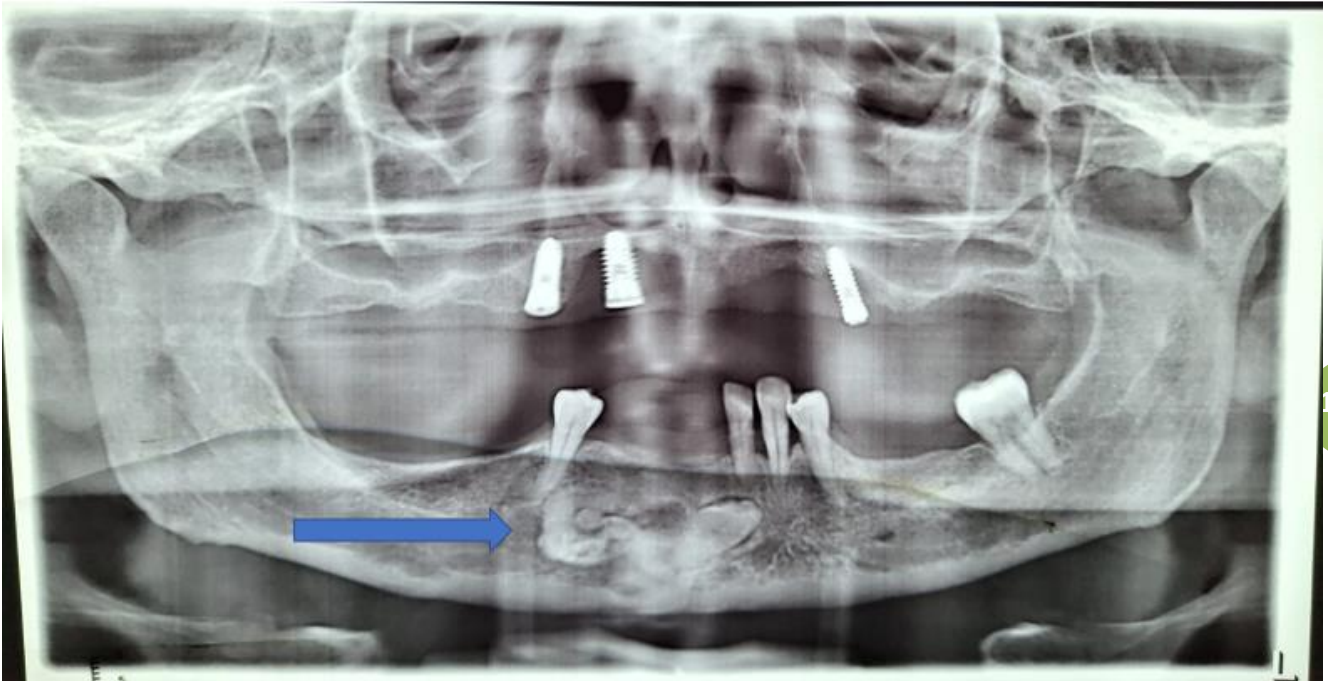
As for the compound odontoma and impacted tooth 43, a conservative approach was chosen, since there were no symptoms or severe associated pathological alterations.(Preoteasa; Preoteasa, 2018)

A new panoramic radiograph was performed after the extractions (Figure 4), showing maintenance of the condition and evidence of satisfactory bone healing in the extraction areas.(Nunes; Brito; Santos; Dias *et al*, 2025)

Image description:

Figure 4 – Post-extraction panoramic radiograph. Shows satisfactory bone healing areas in the extraction sites. The compound odontoma and impacted tooth 43 remain unchanged, without signs of severe associated pathology.

Figure 4: Post-extraction panoramic radiograph .



Source: Author.

DISCUSSION

Compound odontomas are benign odontogenic lesions with limited growth potential and are frequently associated with impacted teeth (Philipsen; Reichart, 2005; Neville et al, 2016). Their etiology remains uncertain, but factors such as local trauma, infection, and genetic alterations have been suggested (Hitchin, 1971; Regezi; Sciubba; Jordan, 2017).

Epidemiological studies indicate that odontomas represent a significant portion of odontogenic tumors, with higher prevalence in young individuals (Budnick, 1976; Fernandes et al, 2005; Santos et al, 2014). However, late diagnosis, as observed in the present case, may occur due to the absence of early radiographic evaluation (Macdonald-Jankowski, 2004; Memarpour et al, 2025).

Radiographically, compound odontomas present as well-defined radiopaque structures resembling miniature teeth, usually surrounded by a radiolucent halo (White; Pharoah, 2019; Scarfe; Farman, 2008). CBCT may provide additional diagnostic accuracy by allowing three-dimensional assessment (Patel et al, 2019; Silva et al, 2016).

The standard treatment is surgical removal; however, conservative management may be indicated in asymptomatic cases without associated complications (Preoteasa; Preoteasa, 2018; Khalifa et al, 2022). Periodic follow-up is

recommended to monitor possible changes (Memarpour et al, 2025; Pereira et al, 2018).

FINAL CONSIDERATIONS

This case reinforces the importance of imaging evaluation in dentistry, especially in patients with advanced periodontal disease. The compound odontoma, although generally diagnosed in young individuals, can remain asymptomatic for decades and be discovered incidentally. (Gómez; Vargas; Rodríguez; Solís *et al*, 2025)

The impossibility of implant rehabilitation imposed a clinical challenge, solved through a conservative approach and rehabilitation with conventional removable dentures. Annual radiographic follow-up was considered safe and effective in light of the clinical scenario presented. (Junior; Melo; Silva; Sena Silva *et al*, 2025; Khalifa; Omami; Garma; Slim *et al*, 2022).

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