

Case Report

Florid Cemento-Osseous Dysplasia Associated with Simple Bone Cysts a Diagnostic Challenge and Multidisciplinary Approach to Complex Jaw Pathology

Dr. Jayaprasad Anekar¹, Dr. Palguni RK^{2*}, Dr. Jayalakshmi B³, Dr. Thufailath M⁴, Seema M⁵

¹Professor and Head, Department of Oral Medicine and Radiology, KVG Dental College and Hospital, Sullia

²Post Graduate Student, Department of Oral Medicine and Radiology, KVG Dental College and Hospital, Sullia

³Associate Professor, Department of Oral Medicine and Radiology, KVG Dental College and Hospital, Sullia

⁴Senior Lecturer, Department of Oral Medicine and Radiology, KVG Dental College and Hospital, Sullia

⁵Department of Oral Medicine & Radiology, KVG Dental College and Hospital, Sullia

***Corresponding Author:** Dr. Palguni RK

Post Graduate student, Department of Oral Medicine and Radiology, KVG Dental College and Hospital, Sullia

Article History

Received: 12.07.2026

Accepted: 31.08.2026

Published: 04.09.2026

Abstract: Florid cemento-osseous dysplasia (FCOD) is a benign fibro-osseous lesion that predominantly affects middle-aged women and may occasionally be associated with simple bone cysts (SBC), posing a diagnostic challenge. A 49-year-old female presented with a three-month history of dull pain in the lower right posterior region, radiating to the head, neck, and right shoulder. Clinical examination revealed mild cortical expansion, left submandibular lymphadenitis, and tenderness over the maxillary sinuses and cervical muscles. Radiographic evaluation demonstrated multiple radiolucent areas in the mandible associated with hypercementosis and sclerotic changes. Biochemical investigations, including serum calcium, phosphorus, alkaline phosphatase, and parathyroid hormone levels, were within normal limits. Histopathological examination confirmed the diagnosis of florid cemento-osseous dysplasia associated with a simple bone cyst. The coexistence of these lesions can result in atypical clinical and radiographic features, making accurate diagnosis challenging. This case highlights the importance of integrating clinical findings with radiographic, biochemical, and histopathological investigations for the diagnosis of complex fibro-osseous lesions of the jaws. A comprehensive and multidisciplinary diagnostic approach is essential for distinguishing FCOD associated with SBC from other mixed or radiolucent jaw lesions and for guiding appropriate patient management.

Keywords: Florid Cemento-Osseous Dysplasia, Simple Bone Cyst, Aneurysmal Bone Cyst, Mandibular Lesion, Multidisciplinary Approach, Jaw Pathology, Diagnostic Imaging.

INTRODUCTION

Florid cemento-osseous dysplasia (FCOD) is a benign developmental fibro-osseous lesion affecting the jawbones, characterized by the replacement of cancellous bone with fibrous connective tissue containing immature and abnormal bone. It predominantly affects women in the fourth to fifth decade of life, particularly those of African descent. The condition is often asymptomatic but may present with dull pain when associated with other lesions such as simple bone cysts (SBC) [7].

Simple bone cysts are intraosseous lesions of unknown etiology, historically attributed to the trauma-hemorrhage theory. The association between FCOD and SBC was first documented by Melrose *et al.*, in 1976 [1]. When these two conditions coexist, the radiographic presentation becomes complex, requiring careful differential diagnosis to distinguish from other osseous pathologies such as aneurysmal bone cysts (ABC) and other benign fibro-osseous lesions.

Copyright © 2026 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

Citation: Anekar, J., Palguni, R. K., Jayalakshmi, B., Thufailath, M., & Seema, M. (2026). Florid Cemento-Osseous Dysplasia Associated with Simple Bone Cysts a Diagnostic Challenge and Multidisciplinary Approach to Complex Jaw Pathology. *South Asian Res J Oral Dent Sci*, 8(4), 66-72. <https://doi.org/10.36346/sarjods.2026.v08i04.001>

This case report presents a diagnostic challenge involving a middle-aged female with multiple radiolucencies in the mandible, emphasizing the necessity of a multidisciplinary approach integrating dentistry, medicine, and pathology.

CASE PRESENTATION

A 49-year-old female presented with a three-month history of dull, radiating pain in the lower posterior region, aggravated by food intake and extending to the head, neck, and right shoulder. Her medical history was significant for hypothyroidism managed with Levothyroxine 100 mcg daily. Despite undergoing root canal treatment in the lower left region eight months earlier, the persistence of pain suggested a pathology beyond a routine odontogenic cause. Clinically, the patient was apparently normal extra-orally (figure 1) with left submandibular lymphadenitis and tenderness over maxillary sinuses, and cervical muscle, while intra-oral examination revealed a partially edentulous mandibular arch (figure 2), mild cortical expansion in relation to teeth 44, 45, 34. Aspiration from the 33–34 region yielded serosanguinous fluid (figure 3).



Fig. 1: Extraoral photograph



Fig. 2: Intraoral photograph



Fig. 3: Aspiration from the 33–34 region

Panoramic radiography demonstrated multiple mandibular radiolucencies with sclerotic areas in the anterior region, radiopaque foci surrounded by radiolucency in edentulous spaces (36 and 48), and generalized hypercementosis, (fig 4). Differential diagnoses such as isolated simple bone cyst and aneurysmal bone cyst were considered due to aspiration findings, patient age, gender predilection, radiographic pattern of mixed radiopaque-radiolucent lesions with hypercementosis, absence of aggressive tooth displacement or resorption Pelvis, Femur and Skull radiographs were taken to rule out other fibro-osseous conditions (shown in figure 5A, B, C, D). CBCT scan was taken which revealed osteolytic areas and pattern of mixed radiopaque-radiolucent lesions in maxilla and mandible (figure 6A, B, C, D). USG of the neck was done to rule out left submandibular lymphadenitis. A coincidental TI-RADS 2 benign thyroid nodule was also noted. Biochemical investigations, including serum calcium, phosphorus, alkaline phosphatase, and PTH levels, were within normal limits.

Bone biopsy was done from multiple sites in maxilla and mandible where lytic areas were present and sent for histopathological examination which revealed similar pathology (figure 6) showed a thin connective tissue lining and scalloping around tooth roots, along with features showing fibrous connective tissue replacing cancellous bone with immature, abnormal bone formation (figure 7A, B).



Fig. 4: Panoramic radiograph demonstrated multiple mandibular radiolucencies with sclerotic areas in the anterior region, radiopaque foci surrounded by radiolucency in edentulous spaces (36 and 48), and generalized hypercementosis involving multiple teeth

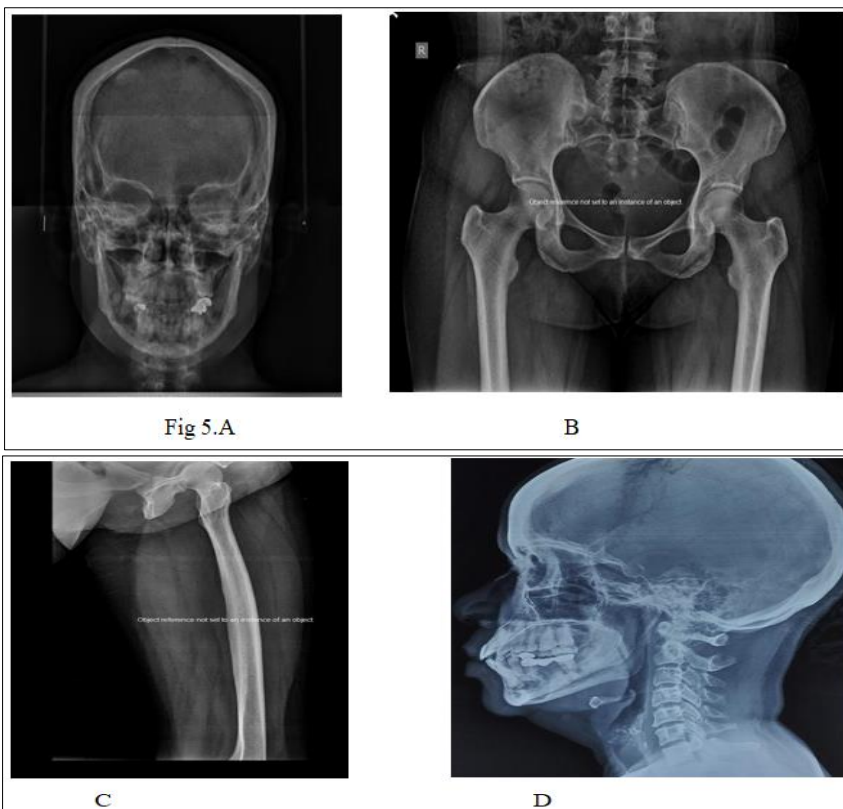
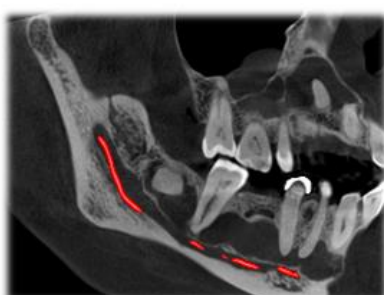


Fig. 6A. CBCT scan (Coronal section)
Anterior Maxilla



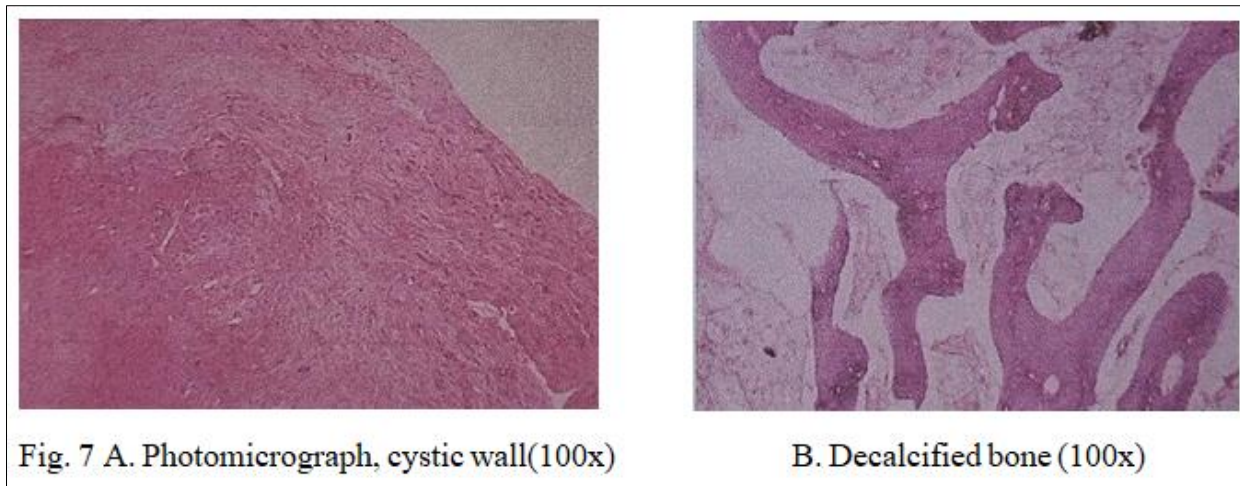
B. (Coronal section)
Anterior Mandible



C. Saggittal section (Right side)



D. Saggittal section (Left side)



Based on the integrated clinical, radiographic, biochemical, and histopathological findings, the final diagnosis of florid cemento-osseous dysplasia associated with a simple bone cyst was established. The patient was explained regarding the importance of periodic follow-up radiographs to monitor the jaw lesions, considering the risk of secondary infection, osteomyelitis, and pathological jaw fracture. The patient was subsequently followed up annually for two years. The first and second follow-up visits demonstrated radiographic evidence of healing in the periapical region of teeth 33, 34, and 35 (figure 8A, B)



Fig. 8A



B

DISCUSSION

Due to the presence of both bone and cementum in dysplastic lesions, Waldron in 1985² proposed changing the term “florid osseous dysplasia,” originally used by Melrose *et al.*, to “florid cementoosseous dysplasia”. Waldron described these lesions as bilateral, symmetrical, and densely sclerotic, predominantly found in the mandibular molar or premolar regions. The association between FCOD and SBC was first reported in 1976 [1], with 14 SBCs observed among 34 patients exhibiting FCOD lesions. The association between FCOD and SBC was first reported in 1976, with 14 SBCs observed among 34 patients exhibiting FCOD lesions [1].

Cemento-osseous dysplasia (COD) represents a group of benign fibro-osseous lesions characterized by the replacement of normal cancellous bone with fibrous connective tissue and varying amounts of immature, abnormal bone. Based on extent, it is classified into periapical cemento-osseous dysplasia (PCOD), which is localized to one sextant, and florid cemento-osseous dysplasia (FCOD), which involves multiple sextants and often presents bilaterally, predominantly in the mandible. FCOD shows a strong predilection for middle-aged females and is frequently detected incidentally, with the involved teeth remaining vital. Radiographically, COD lesions demonstrate a characteristic maturation pattern, progressing from an initial radiolucent stage to a mixed radiolucent–radiopaque appearance, and finally to a densely radiopaque lesion with a surrounding radiolucent rim. As lesions mature, increasing mineralization leads to reduced vascularity, predisposing them to secondary infection and osteomyelitis [6].

Simple bone cysts (SBCs) are non-epithelial-lined cavities that may develop in association with COD, particularly FCOD. Although SBCs typically occur in younger individuals, those associated with cemento-osseous dysplasia present later in life and show a marked female predominance. Radiographically, SBCs appear as well-defined radiolucent lesions with characteristic scalloping around the roots of vital teeth and minimal effect on adjacent structures [6].

Lesions such as SBCs and aneurysmal cysts are the most common lesions associated with FCOD³. The coexistence of COD and SBC is well recognized and is thought to result from local disturbances in bone remodeling and osteoblastic–osteoclastic coordination within dysplastic bone. This association is clinically significant, as SBCs may enlarge, cause cortical thinning or expansion, and complicate the radiographic interpretation. There is a higher prevalence of recurrences when SBCs are associated with FCOD lesions (75%) [4]. Conservative management with periodic follow-up is generally recommended unless complications arise.

CONCLUSION

This case report presents a diagnostic challenge involving FCOD associated with SBC in a middle-aged female. The accurate diagnosis required integration of clinical examination, radiographic evaluation, biochemical analysis, histopathological findings, and ultrasonographic assessment. The multidisciplinary approach not only confirmed the diagnosis but also ruled out more aggressive pathologies requiring intervention.

Florid cemento-osseous dysplasia associated with simple bone cysts is clinically significant because it can be confusing to diagnose, as the combination of radiopaque and radiolucent areas may resemble cysts, tumors, inflammatory bone lesions or malignancy. The bone in FCOD is poorly vascularized, so surgical procedures such as extraction can lead to delayed healing and secondary infection. Simple bone cysts in these cases are usually asymptomatic and may resolve on their own, making aggressive treatment unnecessary. Correct diagnosis is therefore important to ensure conservative management, avoid unnecessary surgery, and maintain regular radiographic follow-up for a good prognosis.

Conflict of Interest: The authors declare no conflict of interest.

Patient Consent: Written informed consent was obtained from the patient for publication of this case report.

Acknowledgment

The authors would like to acknowledge the support of KVG Dental College and Hospital, Sullia, all the teaching staff of Department of Oral Medicine and Radiology for providing guidance and institutional support throughout the study.

This study was presented at OOO conference held at Cuttack, Orissa in 2024.

Authorship Statement

All authors have read and approved the final version of the manuscript. The authors confirm that they meet the criteria for authorship and that the work presented in this manuscript is original and conducted with honesty and integrity.

Clinical Trial Registration: Not applicable

All Authors declared no conflict of interest

REFERENCES

1. Melrose RJ, Abrams AM, Mills BG: Florid osseous dysplasia. A clinical-pathologic study of thirty-four cases. *Oral Surg Oral Med Oral Pathol.* 1976, 41:62-82. 10.1016/0030-4220(76)90254-1
2. Waldron CA: Fibro-osseous lesions of the jaws. *J Oral Maxillofac Surg.* 1985, 51:828-35. 10.1016/s0278-2391(10)80097-7
3. Yeom HG, Yoon JH: Concomitant cemento-osseous dysplasia and aneurysmal bone cyst of the mandible: a rare case report with literature review. *BMC Oral Health.* 2020, 20:276. 10.1186/s12903-020-01264-7
4. Suei Y, Taguchi A, Tanimoto K: Simple bone cyst of the jaws: evaluation of treatment outcome by review of 132 cases. *J Oral Maxillofac Surg.* 2007, 65:918-23. 10.1016/j.joms.2006.06.297
5. MacDonald-Jankowski DS. Florid cemento-osseous dysplasia: a systematic review. *Dentomaxillofacial Radiology.* 2003 May;32(3):141-9.
6. Mallya S, Lam E. *White and Pharoah's oral radiology: principles and interpretation.* Elsevier Health Sciences; 2018 Sep 12.
7. Fenerty S, Shaw W, Verma R, Syed AB, Kuklani R, Yang J, Ali S. Florid cemento-osseous dysplasia: review of an uncommon fibro-osseous lesion of the jaw with important clinical implications. *Skeletal radiology.* 2017 May;46(5):581-90.
8. Sun ZJ, Zhao YF, Yang RL, Zwahlen RA. Aneurysmal bone cysts of the jaws: analysis of 17 cases. *Journal of Oral and Maxillofacial Surgery.* 2010 Sep 1;68(9):2122-8.
9. Wood NK, Goaz PW. *Differential diagnosis of oral and maxillofacial lesions.* 5th ed. St. Louis: Mosby Year book; 1997. p.428-31.
10. Chadwick JW, Alsufyani NA, Lam EW. Clinical and radiographic features of solitary and cemento-osseous dysplasia-associated simple bone cysts. *Dentomaxillofacial Radiology.* 2011 May;40(4):230-5.
11. Damante JH, Guerra ED, Ferreira Jr O. Spontaneous resolution of simple bone cysts. *Dentomaxillofacial Radiology.* 2002 May 1;31(3):182-6.
12. Gonçalves M, Píspico R, Alves FD, Lugão CE, Gonçalves A. Clinical, radiographic, biochemical and histological findings of florid cemento-osseous dysplasia and report of a case. *Brazilian Dental Journal.* 2005;16:247-50.
13. Langlais RP, Langland OE, Nortjé CJ. *Diagnostic imaging of the jaws.* 1995.
14. Saquete Martins-Filho PR, Santos TD, Cavalcanti de Araujo VL, Santos JS, de Souza Andrade ES, Ferreira da Silva LC. Traumatic bone cyst of the mandible: a review of 26 cases. *Brazilian Journal of Otorhinolaryngology.* 2012 Mar 1;78(2):16-21.