Case presentation of florid cemento-osseous dysplasia with concomitant cemento-ossifying fibroma discovered during implant explantation

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A 39-year-old African American woman presented for treatment of a symptomatic mandibular right first molar with a large, periapical radiolucency. After initial attempts at endodontic therapy, this tooth was ultimately extracted owing to unabated symptoms. The extraction site underwent ridge preservation grafting, implant placement, and restoration. After 26 months of implant function, the patient returned with clinical symptoms of pain, buccal swelling, and the sensation of a "loose" implant. This case report details a diagnosis of 2 distinct disease entities associated with the implant site, a cemento-ossifying fibroma and florid cemento-osseous dysplasia of the mandible. This diagnosis was determined from clinical, surgical, radiographic, and histopathologic evidence after biopsy and removal of the previously osseointegrated implant following postinsertion failure by fibrous encapsulation. Before implant therapy, it is essential to conduct a thorough radiographic evaluation of any dental arch with suspected bony lesions to prevent implant failure. (Oral Surg Oral Med Oral Pathol Oral Radiol 2013;115:e44-e52)

Within the tooth-bearing areas of the maxilla and mandible, the fibro-osseous lesion most commonly identified occurs within a particular grouping termed cemento-osseous dysplasia (COD).[1,2] These particular lesions have been described as a "reactive" response thought to arise from a disturbance in bone metabolism.[1,3-6] Within this dysplastic process, areas of normal bone are replaced with fibrous connective tissue with aberrant formations of woven bone and increasing deposition of osseous and cementumlike calcifications over time.[1,2,4,7-9] Within COD lesions, there exists 3 distinct subgroups of lesions based on location and number of lesions that appear. These 3 subgroups consist of focal cemento-osseous dysplasia (FCOD), periapical cemento-osseous dysplasia (PCOD), and florid cemento-osseous dysplasia (FLCOD).[1-6,9,10]

Another fibro-osseous lesion found within the jaws and categorized within the subgrouping of benign fibro-osseous neoplasms is the cemento-ossifying fibroma (COF). This expansile lesion is typified by a predilection for white females arising in the third to fourth decade of life, and commonly located in the molar-premolar region of the jaws. Radiographically, this lesion has a definitive sclerotic border and an inner matrix with increasing calcifications over time. Clinically, a cemento-ossifying fibroma is a true neoplasm and is associated with slow, painless growth that may displace proximal structures, such as teeth, inferior alveolar nerve, and the lower border of the mandible.[1,2,6-15]

An appearance of a COF and FLCOD, 2 clinically distinct pathologies that share similar characteristics in varying percentages of occurrence, is extraordinary and challenging to validate.[1,2,4,6,8,10-12] There is a plethora of documentation as to the misdiagnosis and/or mimicking of these 2 distinct entities of each other in diagnosis, at various stages of development.[1-4,6-9,10,13,16,17] The evidence, as presented in the following documentation, details a unique manifestation of these 2 disease processes having possibly appeared in succession, coexisted within the same patient, and ultimately complicated the long-term success of an implant-supported prosthesis. This concomitant presentation and association with implant failure has not been previously reported to the best of the authors' knowledge and search of the literature.

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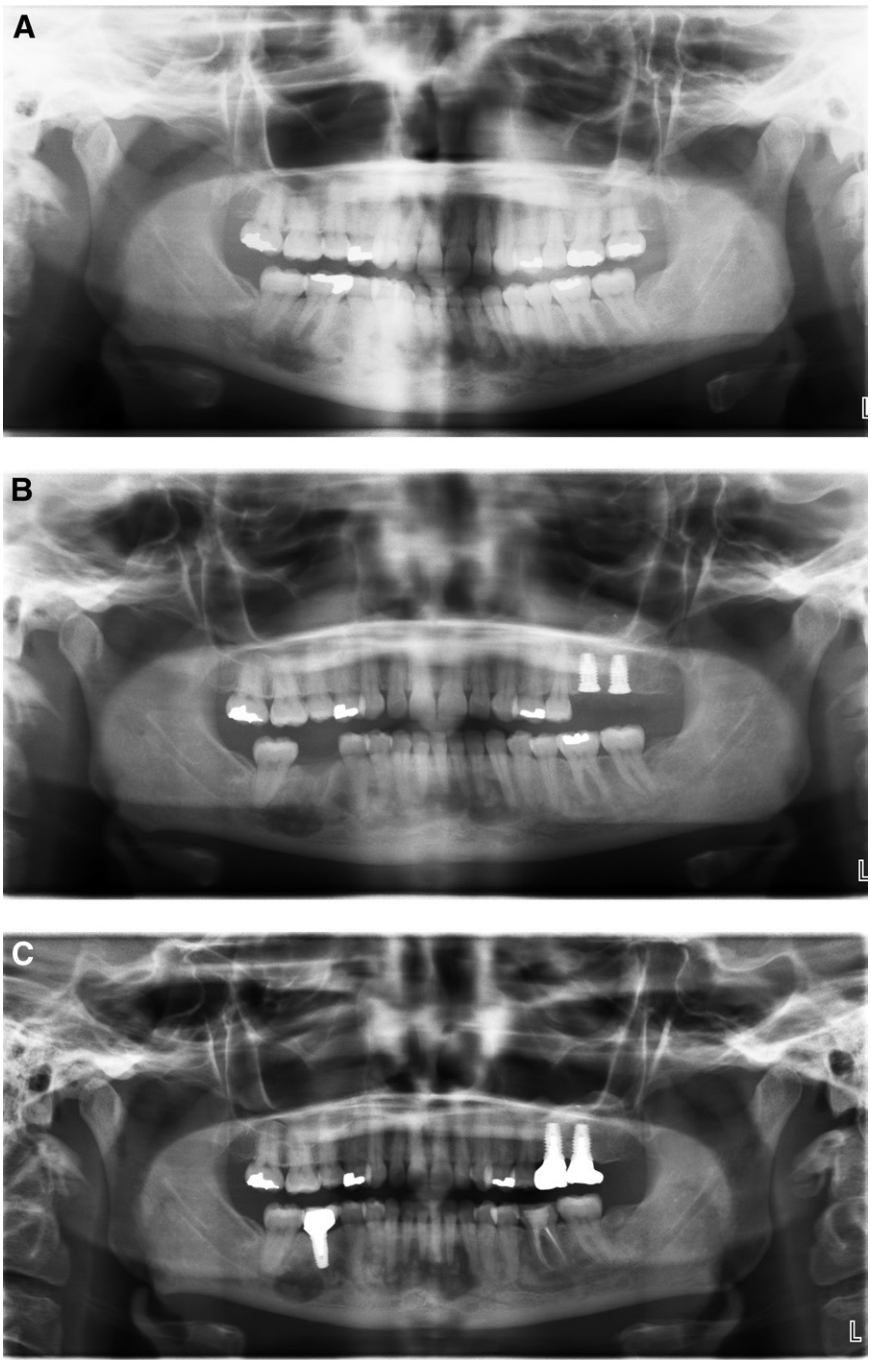

Fig. 1. **A,** Tooth #30 with large amalgam buildup and pulpal involvement was extracted after a failed endodontic procedure to resolve symptoms. **B,** Teeth #14 and 15 extracted owing to recurrent caries and iatrogenic endodontic failures, and implants were placed. Mixed radiolucent/radiopaque lesions seen at #30 extraction site and throughout the mandible. **C,** Progression of radiopacity can be seen in all lesions and extraction socket. At #30 position, implant explanted at time of biopsy of buccal expansion shortly after this panorex was taken. Note: Implants in #14 and 15 in maxilla were free of bony lesions and successfully osseointegrated.

CASE REPORT

In 2007, 37-year-old African American woman presented to the endodontic clinic with a chief concern of spontaneous pain, significant recurrent caries associated with teeth #14 and 15, and large, periapical radiolucency around apex of #30, each necessitating endodontic therapy (Fig. 1, *A*). Medical history was positive for the diagnosis of diabetes, hypertension, anxiety, and with no known drug allergies. The patient's