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Periapical cemento-osseous dysplasia of the right maxillary central incisor



KEYWORDS

Cemento-osseous
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Periapical area

Periapical cemento-osseous dysplasia (COD) may present as a periapical radiolucent, mixed or radiopaque lesion.^{1,2} Periapical COD usually needs no treatment if the correct diagnosis can be achieved. Here, we reported a case of periapical COD of the right maxillary central incisor in a 28-year-old female patient.

This 28-year-old female patient was referred to our dental clinic for evaluation and treatment of a mixed radiolucent and radiopaque lesion at the periapical area of the right maxillary central incisor for more than 6 months after endodontic treatment (Fig. 1A). The lesion was asymptomatic, but the right maxillary central incisor showed a shortened endodontic filling. Because it was a mixed lesion radiographically, the differential diagnosis might include calcifying odontogenic cyst, adenomatoid odontogenic tumor, and a periapical COD. After discussing with the patient, we finally decided to enucleate the lesion. The periapical lesion was thus removed under local anesthesia and sent for histopathological examination. Moreover, apicoectomy and retrograde filling with mineral trioxide aggregates were performed after obtaining the signed informed consent. Microscopically, it showed several fragments of cellular fibrous connective tissue with a mixture of trabeculae of woven bone and a few cementum-like masses (Fig. 1B, C, and D). The high-power views demonstrated peripheral osteoid rimming at the majority of trabeculae of woven bone, but only partial osteoblastic rimming was found at occasional trabeculae of woven bone and no inflammatory cell infiltrate was noted in the stromal

fibrous connective tissue (Fig. 1E, F, G, and H). Therefore, the final histopathological diagnosis was periapical COD.

The COD lesions include periapical, focal, and florid CODs.^{1–5} The periapical COD predominantly involves the periapical regions of the anterior mandible or maxilla, the focal COD most commonly involves the posterior mandible, and the florid COD usually affects the posterior regions of the jaws with concomitant involvement of the anterior mandible.^{1–5} The fibro-osseous lesions of the jaws include fibrous dysplasia, COD, and ossifying fibroma.¹ The small ossifying fibroma may look like a focal COD lesion, because both lesions have a female predilection and frequently affect the mandibular premolar and molar area.^{1,3} The focal COD usually shows a limited growth, on the contrary ossifying fibroma may produce jaw swelling and obvious facial asymmetry.^{1,3} Grossly, the COD specimen consists of fragmented small pieces of bone, but the ossifying fibroma specimen is often composed of a mass of bone or a few large pieces of bone. Although COD and ossifying fibroma have similar histopathological features, most oral pathologists agree that bone trabeculae with peripheral osteoblastic rimming are commonly found in ossifying fibroma and rarely seen in COD lesions. COD lesions are probably reactive and generally they do not need removal. In contrast, ossifying fibroma is an expansible lesion and requires surgical excision of the whole lesion. If the incisor tooth with periapical COD does not have pulp pathosis, the clinician may be easy to make a decision to follow up the periapical COD lesion. However, if root canal therapy has

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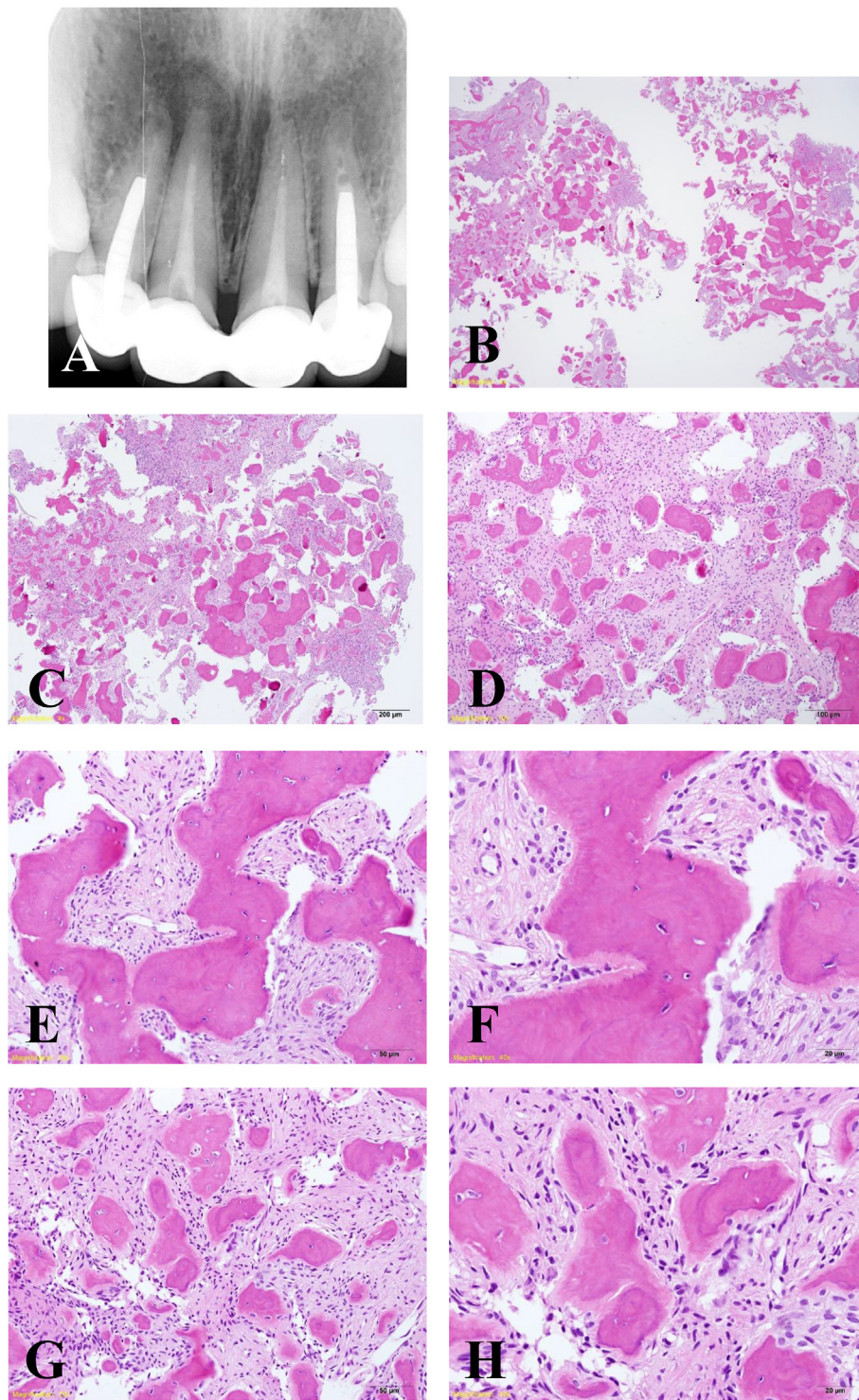


Figure 1 Radiographic and histopathological photographs of our case of periapical cemento-osseous dysplasia. (A) Periapical radiograph showing a mixed radiolucent and radiopaque lesion at the periapical area of the right maxillary central incisor. (B, C, and D) Low-power microphotographs exhibiting several fragments of cellular fibrous connective tissue with a mixture of trabeculae of woven bone and a few cementum-like masses. (E, F, G, and H) High-power microphotographs demonstrating peripheral osteoid rimming at the majority of trabeculae of woven bone, but only partial osteoblastic rimming was found at occasional trabeculae of woven bone and no inflammatory cell infiltrate was noted in the stromal fibrous connective tissue. (Hematoxylin and eosin stain; original magnification; B, 2 \times ; C, 4 \times ; D, 10 \times ; E and G, 20 \times ; F and H, 40 \times).

already performed on the incisor tooth with periapical COD and the COD lesion persists after root canal treatment, the clinician may sometimes decide to remove the lesion for histopathological examination, like the periapical COD lesion in this case report.

Declaration of competing interest

The authors have no conflicts of interest relevant to this article.

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