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Florid cemento-osseous dysplasia with concomitant occurrence of two simple bone cysts in the mandible – Case report

KEYWORDS
Florid cemento-osseous dysplasia;
Simple bone cyst;
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Co-occurrence of florid cemento-osseous dysplasia with simple bone cyst is rarely found clinically.[1] In this case report, we presented a case of florid cemento-osseous dysplasia with concomitant occurrence of two simple bone cysts at the bilateral posterior regions of the mandible in a 48-year-old female patient.

This 48-year-old female patient was referred to the dental department of our hospital for treatment of a large radiolucent lesion at the right posterior mandible by a local dental clinic. The patient complained of a painful sensation at the right mandibular first molar which received endodontic treatment before and was covered by a temporary filling at the occlusal surface. The patient had no systemic disease and no any food or drug allergy. Intraoral examination revealed buccal and lingual expansion at both the right and left posterior mandibular regions. The panoramic radiography revealed a well-defined unilocular and a well-demarcated multilocular radiolucent lesions with a sclerotic border and involving the periapical areas of teeth 44 to 46 and teeth 35 to 37, respectively (Fig. 1A). The superior aspect of the radiolucent lesions demonstrated a scalloped margin between the roots of teeth, highly suggestive of two simple bone cysts at the bilateral posterior mandibular regions (Fig. 1A). Electric pulp test showed the tooth 36 with a normal response value (24/80) and the tooth 37 with an abnormally high response value (71/80) compared to other teeth. A mixed radiolucent and radiopaque lesion at the periapical area of tooth 26 and two separate radiopaque masses at the periapical areas of the teeth 41 and 31, respectively, were also found (Fig. 1A). Cone-beam computed tomography showed bone expansion at the bilateral posterior mandibular regions (data not shown). For obtaining correct histopathological diagnoses, two biopsy procedures were performed at the lingual side of the two mandibular radiolucent lesions. Both radiolucent lesions revealed an empty cavity with some clear straw-colored fluid at the bottom on surgical exploration during the biopsy procedure. Microscopic examination of the small thin and long specimen taken from the inner lining of the right mandibular bone cavity showed a strip of bone tissue and a band of endosteum-like tissue composed of a sheet of osteoblasts in an osteoid matrix, compatible with the lining wall tissue of a simple bone cyst (Fig. 1B, C and D). Another tissue specimen taken from the multilocular lesion at the left posterior mandible exhibited a long band-like tissue composed of relatively dense or loose vascular fibrous connective tissues with cholesterol slits surrounded by foreign body giant cells and a lymphoplasma cell and histiocyte infiltrate, also highly suggestive of a simple bone cyst (Fig. 1E, F and G). Taken the whole radiographic and histopathological findings together, a clinical diagnosis of florid cemento-osseous dysplasia with concomitant occurrences of two simple bone cysts was confirmed.

It is interesting to know why there is co-occurrence of florid cemento-osseous dysplasia with simple bone cyst. Initially, a cemento-osseous dysplasia lesion is predominantly radiolucent. It becomes a mixed radiolucent and radiopaque lesion as time goes by and finally changes into a radiopaque lesion. When the cemento-osseous dysplasia lesion matures to a radiopaque mass, it may lose blood circulation and lymphatic drainage and in turn transform into a simple bone cyst due to venous obstruction and blockage of interstitial fluid drainage and subsequent gradual destruction of the surrounding bone.[1] Actually, no immunohistochemical staining is needed to confirm the diagnosis of a simple bone cyst.[2–5]

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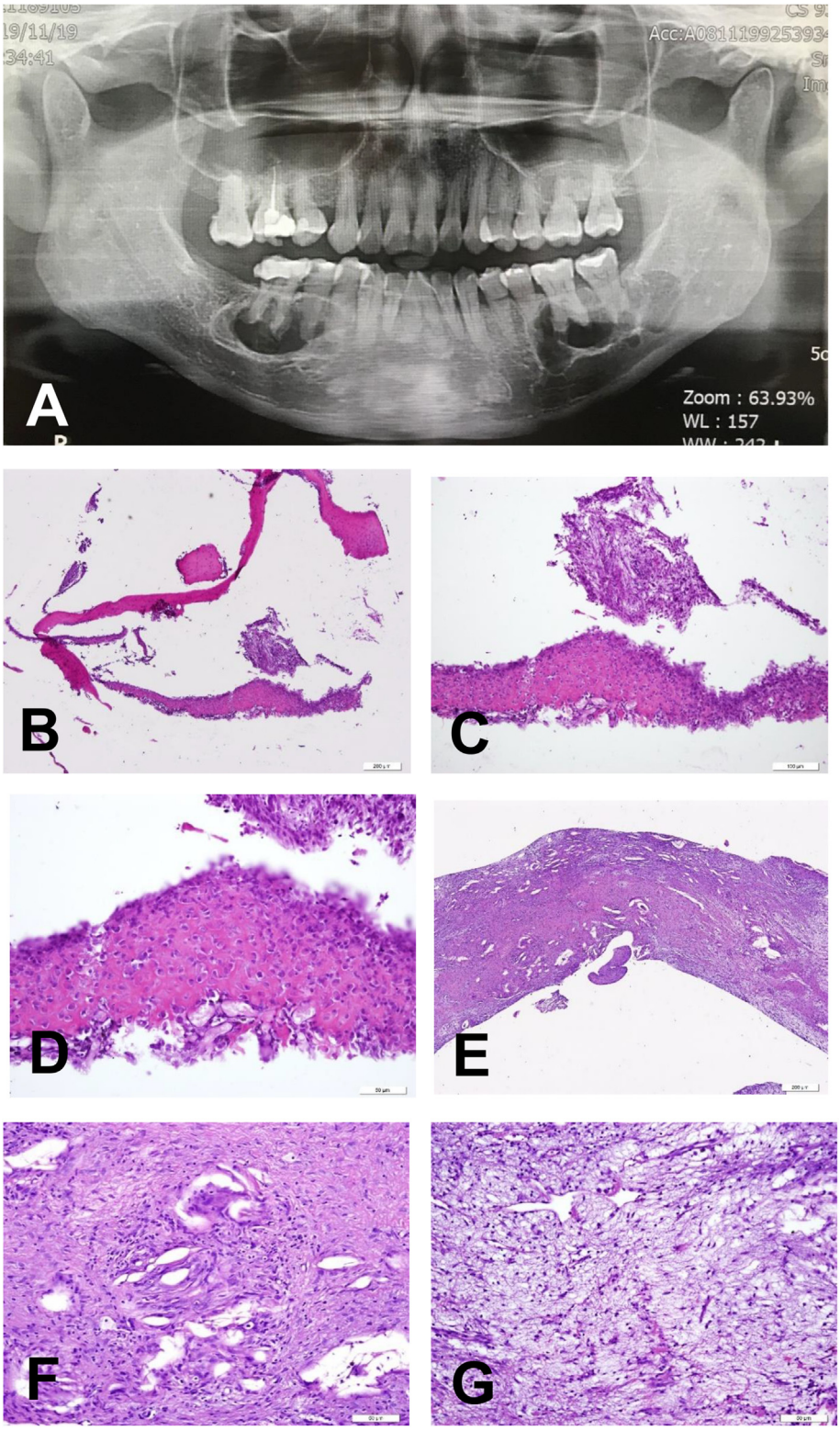

Figure 1 Radiographic and histopathological photographs of our case of co-occurrence of florid cemento-osseous dysplasia with two simple bone cysts. (A) Panoramic radiograph showing a well-defined unilocular and a well-demarcated multilocular radiolucent lesions with a sclerotic border and involving the periapical areas of teeth 44 to 46 and teeth 35 to 37, respectively. A mixed radiolucent and radiopaque lesion at the periapical area of tooth 26 and two separate radiopaque masses at the periapical areas of the teeth 41 and 31, respectively, were also found. (B, C and D) Microphotographs exhibiting a strip of bone tissue and a band of endosteum-like tissue composed of a sheet of osteoblasts in an osteoid matrix (Hematoxylin and eosin stain; original magnification; B, 4 $\times$, C, 10 $\times$ and D, 20 $\times$). (E, F and G) Microphotographs demonstrating a long band-like tissue composed of relatively dense or loose vascular fibrous connective tissues with cholesterol slits surrounded by foreign body giant cells and a lymphoplasma cell and histiocyte infiltrate (Hematoxylin and eosin stain; original magnification; E, 4 $\times$, F and D, 20 $\times$).

Declaration of Competing Interest

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

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