Glandular Odontogenic Cyst

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History

A 46-year-old female presented with an incidental finding of a radiolucent lesion in the anterior mandible.

Radiographic Features

Imaging studies revealed a well defined, multilocular lesion of the anterior mandible. The lesion crossed the mandibular midline and extended from alveolar bone to the inferior cortical margin (Fig. 1). There was a moderate degree of facial-lingual expansion and complex internal locularity (Fig. 2). Cortical perforation was present.

Treatment

Incisional biopsy was followed by surgical resection of the mass via segmental mandibular resection.

Diagnosis

Histologic examination revealed a complex intra-osseous cystic odontogenic process characterized by numerous irregular and variably sized cysts diffusely involving the mandibular bone. The lining epithelium varied from stratified squamous to cuboidal to columnar with scattered foci of

mucous cells. Whorled plaque-like epithelial thickenings, intraepithelial microcysts and occasional micropapillary structures were present. The characteristic glandular odontogenic cyst (GOC) histomorphologic features were readily evident (Fig. 3).

Discussion

The GOC is an uncommon odontogenic cyst, accounting for less than 1% of odontogenic cysts, however, recognition as a specific entity is warranted on the basis of its distinctive clinical, morphologic and radiographic features [1–3]. This is primarily a cyst of adult patients with a mean age at diagnosis of 45–50 years. There does not appear to be strong evidence of a male or female sex predilection, but the GOC may be slightly more common in men. The majority of cases involve the mandible but, in contrast to many odontogenic lesions, the GOC is more common in the anterior portion of the jaws. Radiographically, multilocular and unilocular examples occur with equal frequency [4, 5]. GOC should be included in the differential diagnosis of multilocular mandibular lytic lesions which cross the midline such as ameloblastoma, odontogenic myxoma and central giant cell granuloma. The odontogenic keratocyst tends to have scalloped margins rather than true multilocularity and is a less likely consideration. Microscopically, the diagnosis depends on the identification of an odontogenic cyst with lining that varies from squamous to cuboidal, in combination with mucous cells arrayed in clusters or individually, microcysts within the epithelial lining, plaque like thickenings and micropapillary structures [2, 3]. The cysts are frequently architecturally complex with multiple cystic spaces. Because of the presence of admixed squamous and mucous cell components, central mucoepidermoid carcinoma should

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Fig. 1 Cropped panoramic radiograph demonstrates a complex lytic lesion of the anterior mandible. There is early erosion of the inferior mandibular cortical border

Fig. 2 Axial CT scan (bone window) reveals a destructive multilocular lesion of the anterior mandible. There is moderate expansion, particularly on the facial aspect of the mandible, and focal cortical penetration

be included in the histologic differential diagnosis of GOC [6, 7]. Follow up of patients with GOC has revealed a recurrence rate which is similar to that of the odontogenic keratocyst [4, 8]. It has been suggested that the rate of recurrence increases with the radiographic complexity of the cyst [4]. Treatment of the GOC involves ensured complete removal and long term follow is appropriate.

Fig. 3 Complex cyst lining composed of multiple cell types. Mucous cells and microcyst formation are prominent in this section

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