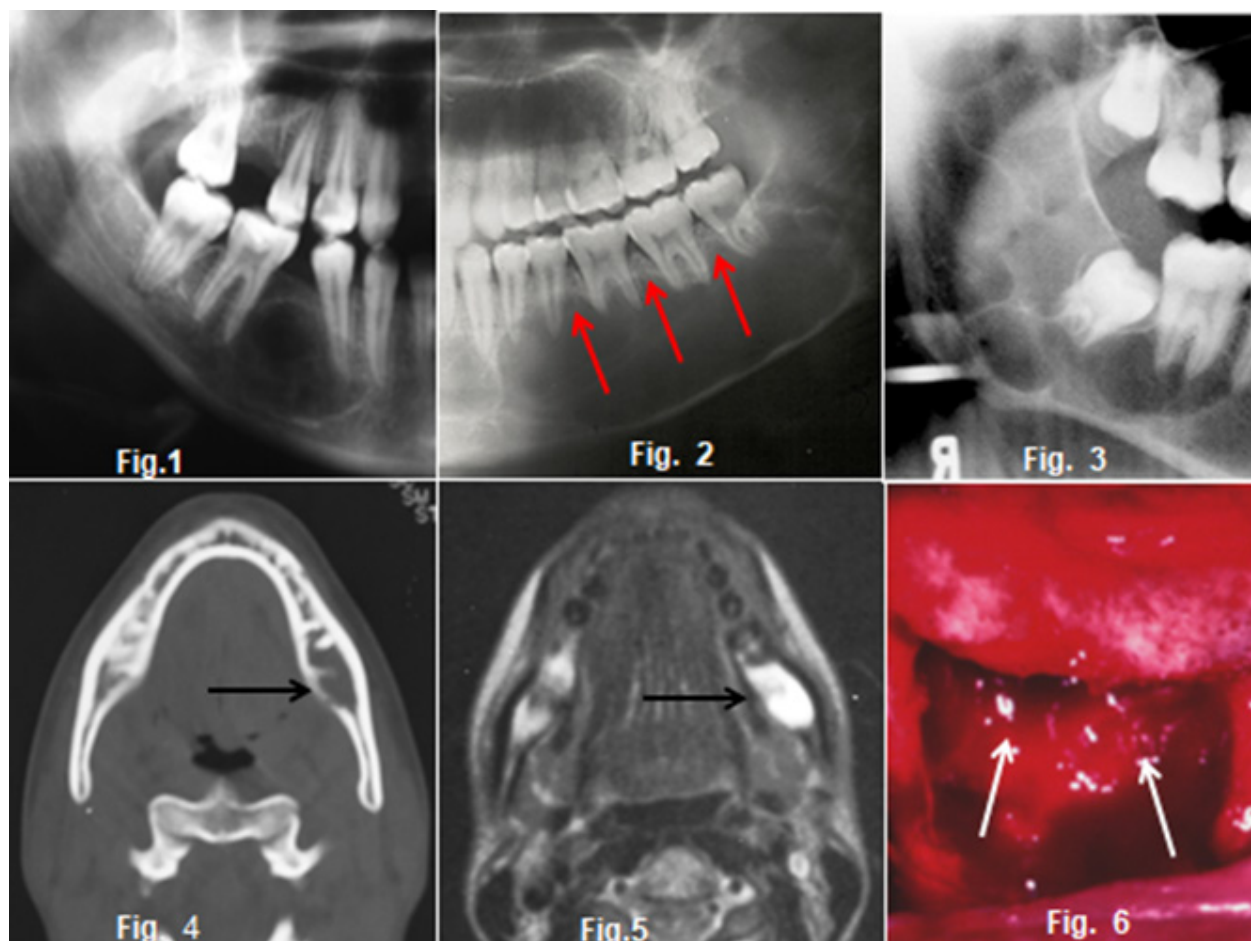


Maxillofacial radiology case 159

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Below are images of a lesion that does not commonly present in the upper jaw and has a preference for the mandible. Discuss the important radiological features and what is your differential diagnosis?



INTERPRETATION

Fig.1 shows a unilocular radiolucency affecting the body of the mandible. Fig.2 shows a radiolucency with scalloped margins (red arrows) between the tooth roots with lack of expansion of the bone. Fig.3 shows a multilocular lesion at the right angle of the mandible which is a rare finding. In all the cases a diagnosis of a solitary bone cyst was made. The cyst is a cavity in the mandible and is not a true cyst as it lacks an epithelial lining. It may be a normal variant rather than a disease process. The cyst is also known as a solitary, traumatic or a haemorrhagic bone cyst. The aetiology and pathogenesis of the cyst is unknown. The various names that have been applied suggest speculation as to the possible etiology of the lesion. The cysts have been detected in patients with widely ranging ages (2 to 75 years); however, most are found during the second decade of life. They occur in the mandible with almost equal frequency in the body and vertical ramus with no gender predilection. In the majority of cases it appears to be an incidental finding. Though the epi-pathogenesis of the solitary bone cyst is not clear, the most common underlying cause is trauma. Traumatic-haemorrhagic theory suggests that the lesion develops if intramedullary clots after trauma do not undergo

lysis or resolution. The cyst is asymptomatic with no sign of pain and swelling, as it does not cause cortical expansion, as demonstrated by the axial CT image (Fig.4). A common radiographic finding describes a unilocular radiolucency with scalloped margins in the periapical region of the teeth involved which are normally vital. Histopathologically, the cyst is either empty or may reveal connective tissue membrane lining or may be filled with serous or sanguineous fluid which shows a homogenous high signal as illustrated on the axial T2-weighted MRI image (Fig.5). Surgical intervention may reveal an "empty" cavity in solitary bone cysts (Fig.6). Generally the solitary bone cyst is above the mandibular canal. Differential diagnosis must include the odontogenic keratocyst tumour.

References:

1. Farman AG, Nortje CJ, Wood RE: Oral and Maxillofacial Imaging, 1st Ed, Mosby. St. Louis, Missouri 1993 pp 226-8.