Brown tumours: widespread involvement of multiple maxillofacial bones and cervical spine

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DESCRIPTION

Brown tumours are sequelae of abnormal bone metabolism in hyperparathyroidism.¹ Primary, secondary and tertiary hyperparathyroidism are causative with most cases of the secondary type.^{2,3} This article highlights Brown tumours of bones rarely reported in literature.

We report a case of a 34-year-old woman with difficulty in eating and speaking as a result of a reduced mouth space. Medical history revealed end-stage renal disease for which she underwent haemodialysis three times a week. Physical examination showed firm bony expansions on both maxillary buccal shelves, anterior palate, and labial and lingual plates of the mandible. CT imaging of the head and neck demonstrated widespread ground-glass appearance of the dental arches, facial bones and cervical spine (figures 1 and 2). In the maxilla, multilobar and expansile lesions involving the right and left buccal shelves are seen, with the latter more prominent (figure 1A). In the mandible, multiple destructive lesions (figure 1C), bony expansions of the labial and lingual plates and prominent anterior interdental spacing (figure 1B, C) were observed. Loss of lamina dura around the lower canine root and a moth-eaten appearance in

the gonial area are shown in figure 2B. Unusually, multiple concurrent osteolytic lesions of the zygomatic complexes (figure 2A, C) and cervical spine (figure 2B, C), both infrequently reported, were also identified. Biochemical investigations showed raised urea, creatinine, alkaline phosphatase and serum parathyroid hormone (2007 pg/mL; normal 16–69 pg/mL). These findings are consistent with Brown tumours in hyperparathyroidism secondary to end-stage renal disease.²

Learning points

- ▶ Brown tumours can simultaneously affect multiple bones of the dentoalveolar, maxillofacial area and the cervical spine.
- ▶ Clinicians should be familiar with the characteristic radiographic presentations in patients with hyperparathyroidism and be aware that the lesions may affect large areas of bone.
- ▶ Lesions within the facial skeleton may cause narrowing of foramina and the oral cavity.

Figure 1 Axial CT images of the dental arches showing (A) bony lumps on the maxillary buccal shelf areas with the left side most severely affected (purple arrows) and lytic areas in the palate (purple asterisks); (B) bony expansion of the mandible (red arrows) and prominent interdental spaces anteriorly (white circle) and (C) multiple osteolytic lesions of the whole mandible (dark blue asterisks).

Figure 2 (A) Coronal CT image showing widespread involvement of multiple bones of the maxillofacial area (light blue asterisks). (B) Sagittal CT image showing loss of the lamina dura around the lower canine root (yellow arrow), prominent osteolytic lesions in gonial area (yellow asterisks) and cervical spine (dark blue arrows). (C) Axial CT images with osteolytic lesions involving both zygomatic complexes and the cervical spine (green asterisks).

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