

# Bone metastases and hypercalcaemia from cutaneous squamous cell carcinoma

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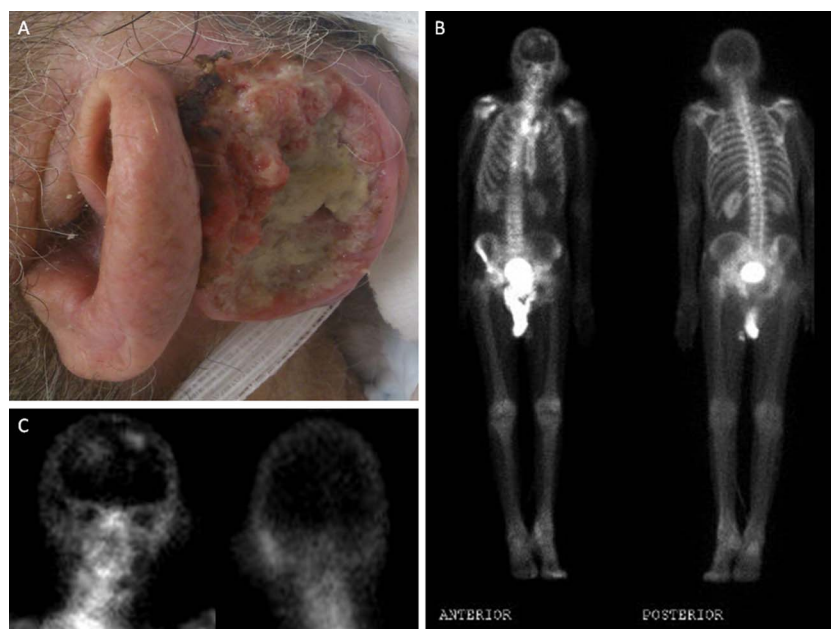
## DESCRIPTION

An 83-year-old man presented with hypercalcaemia (12.5 mg/dL, reference range 8–10.7 mg/dL) and acute renal failure. On physical examination, the patient was found to have a solid mass behind his left ear (figure 1A). Histopathological examination disclosed squamous cell carcinoma with areas of necrosis. Serum phosphorus level was low (2 mg/dL, reference range 2.7–4.5 mg/dL) and intact parathyroid hormone (iPTH) was also low (4.4 pg/mL, reference range 10–65 pg/mL), whereas an elevated PTH-related peptide (PTH-rP) level was found (27 pg/mL, reference range 14–25 pg/mL). Bone scan disclosed focal uptake in bilateral parietal skull highly suspicious of bone metastases (figure 1B), further assessed with brain MRI (figure 2). Acute renal failure and hypercalcaemia improved with intravenous fluids without need for bisphosphonate administration. No evidence of other primary solid malignancy was found on CT of the chest and abdomen/pelvis. Workup for multiple myeloma was negative. The patient's tumour was deemed

inoperable, and not amenable to systemic chemotherapy due to poor performance status; therefore, palliative radiotherapy was initiated.

## Learning points

- Distant osseous metastases from cutaneous squamous cell carcinoma are rare and the underlying humoral mechanism involves parathyroid hormone-related peptide overproduction by the tumour.<sup>1</sup> Intriguingly, low but detectable serum intact parathyroid hormone levels are also involved in the development of humoral hypercalcaemia of malignancy.<sup>2</sup>
- The incidence of metastases increases with lesions >2 cm in width or 4 mm in depth. In such cases, surgical treatment is limited and the usual approach involves radiotherapy or/and platinum-based chemotherapy.<sup>3</sup>

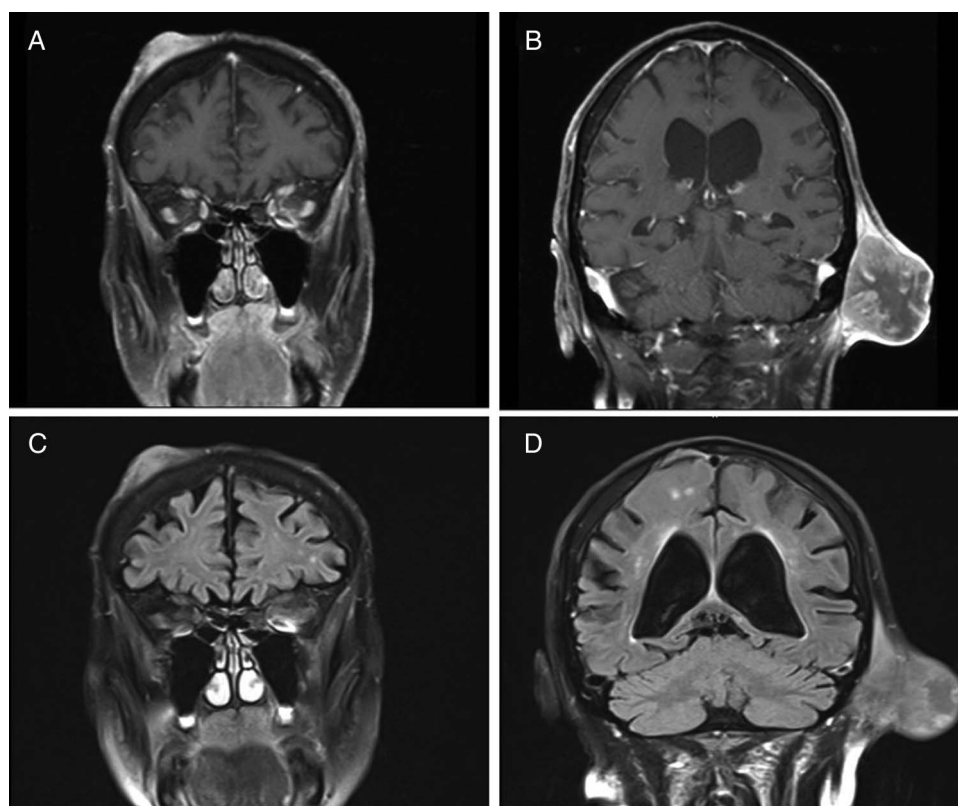


**Figure 1** (A) Squamous cell carcinoma with central necrosis at the left postauricular area. (B) Bone scan showing focal uptake in the bilateral parietal skull highly suspicious of bone metastases. (C) Enlarged view of skull showing bone thickening at the primary site and metastasis.



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**Figure 2** MRI of the brain showing T1 (A and B) and T2 fluid attenuation inversion recovery (C and D) images of bone thickening and enhancement with indistinct borders, at metastatic (A and C) and primary site (B and D).

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**Competing interests** None.

**Patient consent** Obtained.

**Provenance and peer review** Not commissioned; externally peer reviewed.

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