

A moth-eaten radius

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DESCRIPTION

A 67-year-old right-handed man, with known renal cell carcinoma (RCC), presented to the hospital with a painful and swollen right wrist joint and severe hypercalcaemia (albumin-corrected serum calcium level of 3.6 mmol/L) with low parathyroid hormone levels (0.6 pmol/L). He was known to have RCC (histologically proven clear cell subtype) with metastasis to the lung (disease stage IV; T3aN1M1). Physical examination revealed a swollen and deformed right wrist joint that was tender to palpation.

A plain radiograph showed a large soft tissue swelling of the right wrist and a 3 cm lytic lesion in the radius (figure 1) with permeative bony destruction and a pathological fracture of the distal epiphysis. There was dislocation of the wrist with permeative bone loss of the distal ulnar metaphysis and epiphysis (figure 2). MRI of the wrist showed

destruction of the distal right radial epiphysis with a large fleshy tumour measuring 6.1×5.5×5.8 cm (figure 3) with involvement of the skin and subcutaneous tissues. MRI showed prominent flow voids in the tumour consistent with RCC metastasis.

Administration of intravenous fluids and palmitronate brought the hypercalcaemia under control and his wrist was immobilised in a plaster-of-Paris cast. The patient declined external fixation of the joint for definitive treatment and chose palliative-care with opioid analgesics.

RCC accounts for 3% of all adult cancers and about 90% of renal neoplasms.¹ RCC metastasises predominantly to the axial skeleton² and metastasis to the radius is unusual. There are two prognostic models for RCC, namely, the Memorial Sloan-Kettering Cancer Center (MSKCC) model and the Heng model.³ In the MSKCC model,



Figure 1 An anteroposterior radiograph of the right wrist showing osteolysis of the radius (black arrow).



Figure 2 A lateral radiograph of the right wrist showing fracture and dislocation of the forearm bones and wrist (black arrow).



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Figure 3 MRI showing the fleshy metastatic tumour (white arrow).

hypercalcaemia was found to be associated with a poor prognosis and an advanced stage of the disease.

Learning points

- ▶ Renal cell carcinoma (RCC) accounts for about 3% of adult malignancies and about 90% of neoplasms of the kidney.¹
- ▶ RCC metastasises predominantly to the axial skeleton.²
- ▶ The presence of hypercalcaemia indicates advanced disease and a poor prognosis in RCC.³

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Competing interests None.

Patient consent Obtained.

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