

Renal hyperparathyroidism presenting as bilateral shoulder pain

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A 45-year-old man with end-stage renal disease presented with intra-dialysis fever and longstanding shoulder pain. Workup with chest radiograph showed no infective lung changes, but incidentally demonstrated new bilateral acromioclavicular osteolysis (**Figure 1**). This prompted biochemical tests and further imaging with thyroid ultrasound, sestamibi parathyroid scintigraphy and computed tomography (**Figure 2**). These showed marked parathyroid hyperplasia and features of renal osteodystrophy, leading to a diagnosis of secondary renal hyperparathyroidism.

Acromioclavicular osteolysis is typically unilateral, and often caused by trauma, infection or arthritides (Schwarzkopf et al, 2008), which were absent in this patient. It is an uncommon cause of shoulder pain which can be managed conservatively and should be considered in patients with chronic renal insufficiency. Bilateral involvement often indicates systemic (eg metabolic, inflammatory, autoimmune, neoplastic) aetiologies, which warrant further investigation. Imaging is useful in establishing an acute or chronic process and in monitoring the skeletal catabolic effects of hyperparathyroidism, such as pseudogout or brown tumours.

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Reference

Schwarzkopf R, Ishak C, Elman M et al. Distal clavicular osteolysis: a review of the literature. *Bull NYU Hosp Jt Dis*. 2008;66(2):94–101



Figure 1. Chest radiograph demonstrating subchondral bone resorption of the bilateral acromioclavicular joints with a widened and irregular appearance, more pronounced at the distal clavicular ends (white circles). Subligamentous resorption (arrows) at the clavicular attachment of the coracoclavicular ligament on both sides is also likely present. A right-sided central venous catheter was noted in-situ.

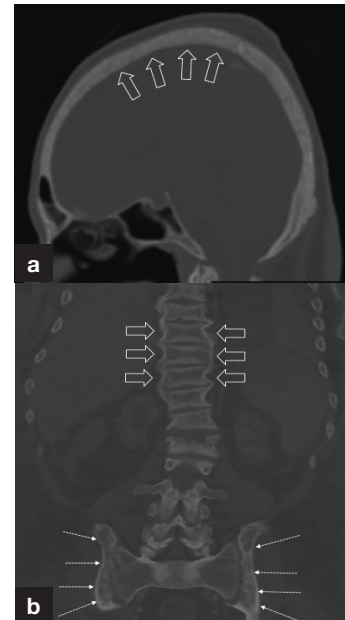


Figure 2. a. 'Salt and pepper' skull in intracortical bone resorption (arrows): characteristic granular or mottled appearance. b. 'Rugger-jersey' spine in osteosclerosis: bands of dense bone adjacent to the vertebral end plates, with a central band of lower normal bone density (arrows). Subchondral resorption of the sacroiliac joints is noted, more pronounced along the iliac bones (dashed arrows).