Tumoral calcinosis in a patient with chronic renal failure

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A 35-year-old female presented to rheumatology clinic with multiple joint pains and swelling at both knee joints for the last six months. She had been undergoing dialysis three times a week for the last three years for chronic renal failure. Laboratory assessment showed serum creatinine 14 mg/dl, serum calcium 10.4 mg/dl, serum phosphorus 7.3 mg/dl, serum alkaline phosphatase 764 IU/l, serum albumin 3.0 g/dl, serum uric acid 5.6 mg/dl and serum parathyroid hormone 136 ng/l. She was on follow-up with a nephrologist but was poorly compliant to medications due to financial constraints. On examination she had swelling over the lateral aspect of both knees (Figure 1). They were warm and tender, with a soft to firm consistency. Periarticular swellings were also noted at the 3rd metacarpal joint and the 1st interphalangeal joint on the left hand and on both hips laterally. Radiographs of knees, hands and pelvis revealed amorphous cloud-like soft tissue calcifications (Figure 2). Based on clinical, laboratory and radiological findings, a diagnosis of secondary tumoral calcinosis was made. She was treated with phosphate binding medications, advised a phosphate-restricted diet and was continued on dialysis.

Figure 1 Clinical picture showing swelling over lateral aspect of bilateral knees.

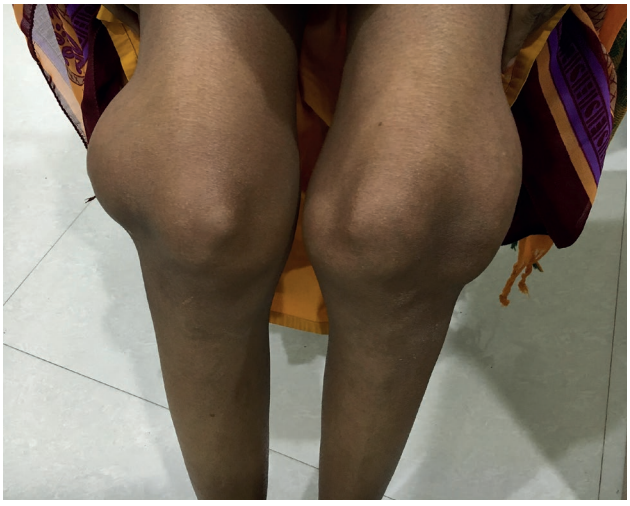
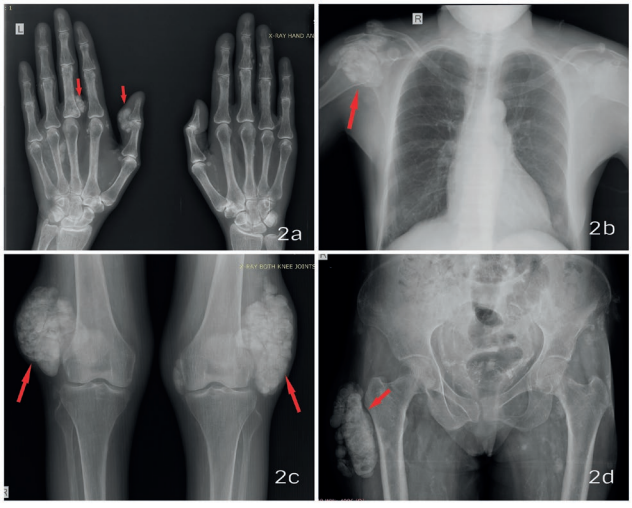


Figure 2 Anteroposterior radiograph of the hands showing soft tissue calcifications predominantly over the 3rd metacarpal joint and the 1st interphalangeal joint of the left hand. as shown by red line (a). Chest radiograph posteroanterior view showing well-circumscribed lobulated dense calcifications overlying right shoulder joint with intact underlying bones, as shown by red line (b). Anteroposterior radiograph of the knees (c) and pelvis (d) demonstrates well-circumscribed, amorphous, cloud-like calcifications within the soft tissues in periarticular distribution, as shown by red line.



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Tumoral calcinosis can occur in patients with chronic renal failure due to a disorder in calcium and/or phosphate metabolism associated with secondary hyperparathyroidism. It manifests as periarticular calcinosis usually at elbows, shoulders, hips and knees, although cases involving cervical and lumbar spine, the supraclavicular area and toes have also been reported.[1] They usually present with multiple or solitary swellings related to the joints, discomfort, pain and joint movement limitation.[2] Tumoral calcinosis has a typical appearance on radiographs of amorphous, cystic and multilobulated calcification located in a periarticular distribution.[3] Management is difficult and necessitates phosphate restriction in diet, non-calcaemic phosphate binders and dialysis with low calcium dialysate. However, in some patients for whom medical therapy is not effective, subtotal parathyroidectomy can help resolve the disease.[4]

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