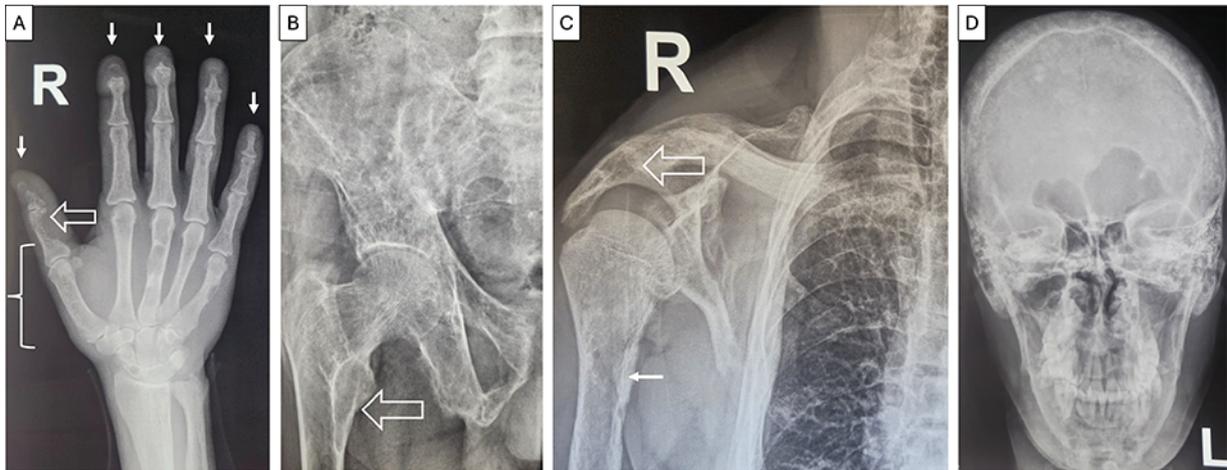


## Images in Medicine

### Osteitis Fibrosa Cystica: a forgotten manifestation of primary hyperparathyroidism



Constance Adams<sup>1\*</sup>, Farzahna Mohamed<sup>1</sup>

<sup>1</sup>Department of Internal Medicine, Division of Endocrinology and Metabolism, University of the Witwatersrand, Faculty of Health Sciences, School of Clinical Medicine

*Corresponding Author:* [constance.adams@wits.ac.za](mailto:constance.adams@wits.ac.za)

A 52-year-old man presented to the emergency department with lethargy and profound dehydration. He reported a 6-month history of worsening polyuria, polydipsia, and diffuse bone pain, most pronounced in the right thumb. His mental status and hydration improved with fluid resuscitation. Laboratory investigations revealed a corrected serum calcium of 4.46 mmol/L (reference range, 2.15–2.50), phosphate of 0.92 mmol/L (0.78–1.42), urea of 10.5 mmol/L (2.1–7.1), with an estimated glomerular filtration rate of 23 mL/min/1.73 m<sup>2</sup> (>90). After saline diuresis, serum calcium decreased to 2.80 mmol/L, though renal function remained impaired. Further testing revealed a markedly elevated parathyroid hormone (PTH) at 339.9 pmol/L (1.6–6.9), alkaline phosphatase of 1869

U/L (53–128), and a 25-hydroxyvitamin D level of 89.03 nmol/L (>50: sufficient). Radiographs demonstrated classic features of advanced skeletal involvement in primary hyperparathyroidism: a large osteolytic lesion (brown tumor) in the middle phalanx of the right thumb (Panel A, open arrow), diffuse cystic changes (Panel A, curly bracket) and acro-osteolysis in the right hand (Panel A, arrows), a brown tumor of the right upper femur (Panel B, open arrow), subperiosteal bone resorption of the proximal humerus (Panel C, arrow), with a clavicular brown tumor (Panel C, open arrow), and “salt-and-pepper” degranulation of the skull (Panel D). He underwent a right inferior parathyroidectomy with subsequent normalisation of calcium and PTH levels.