

CLINICAL PICTURE

Osteitis fibrosa cystica in primary hyperparathyroidism

A 43-year-old Asian initially presented to her primary care physician (PCP) for chronic bilateral hip pain for which she tried analgesics and anti-inflammatory medication with minimal relief. She was found to have an abnormal X-ray of pelvic bone for which she was referred to orthopedic surgery for further evaluation. She underwent computed tomography (CT) of pelvis which revealed multiple lytic lesions in the pelvic bone, involving bilateral ilium and pubic bone, right acetabulum (Figure 1a), which was again managed conservatively with minimal improvement and she was lost for a follow up.

The patient presented to her PCP 2 years later with similar complaint. Biochemical assays revealed hypercalcemia of 14.2 mg/dl (reference range, 8.5–10.5 mg/dl), hypophosphatemia of 1.8 mg/dl (reference range, 2.8–4.5 mg/dl) and elevated parathyroid hormone (PTH) of 1361 pg/ml (reference range, 15–65 pg/ml) with mild renal insufficiency with creatinine of 1.25 mg/dl (reference 0.50–1.40 mg/dl). She also had history of nephrolithiasis and osteoporosis. An ultrasound of neck showed an isolated, large hypoechoic mass near left thyroid lower pole, suggestive of parathyroid lesion with a concordant Tc-99 m Sestamibi parathyroid scintigraphy. She underwent focused parathyroidectomy in the left inferior area and the pathology was consistent with 4 × 3.5 cm sized parathyroid adenoma.

Postoperatively, her chemistry profile normalized quickly and patient reported having progressive improvement of bilateral hip pain. A repeat CT of pelvis in 2 years after parathyroidectomy (Figure 1b) showed near complete remineralization of the previously noted lytic lesions. The area previously occupied

by the osteitis fibrosa cystica now appears to be resolved indicative of bone formation.

Bone disease in severe primary hyperparathyroidism is described classically as osteitis fibrosa cystica. Areas of the bone affected by osteitis fibrosa cystica starts to recover as early as 1 week after successful parathyroidectomy, which can be demonstrated by changes in biochemical markers of bone turnover.¹ Although the extent of remineralization varies from patient to patient, radiographic changes are known to be apparent within 3 months of parathyroidectomy with near disappearance of bone pain.^{1,2} For our patient, it almost took 2 years to completely recover from osteitis fibrosa cystica.

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References

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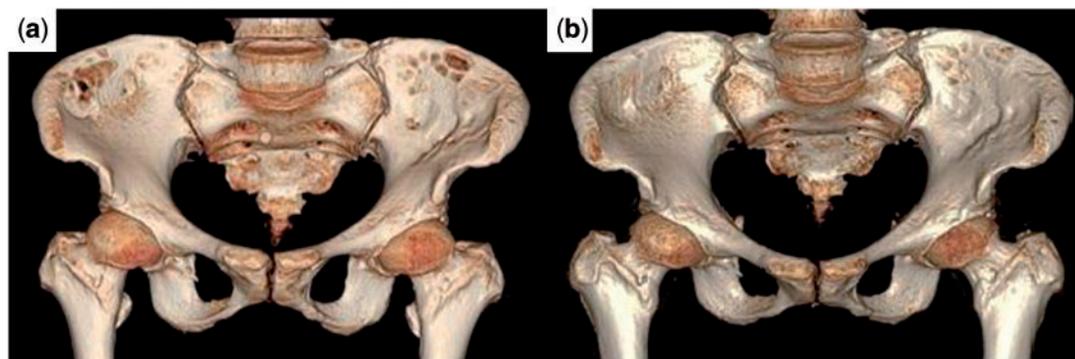


Figure 1 (a) 3D images of CT of pelvis revealing multiple lytic lesions in the pelvic bone, involving bilateral ilium and pubic bone, right acetabulum. (b) Repeat 3D images of CT of pelvis 2 years after parathyroidectomy, revealing almost resolved those lytic lesions.