

Uncommon cause of hypercalcaemia in metastatic breast carcinoma

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DESCRIPTION

A 61-year-old female diagnosed to have carcinoma of the left side with disseminated skeletal metastases (figure 1) 5 years back presented with worsening bone pains and fatigability for the past 6 months. She was earlier treated with palliative radiotherapy to the spine and had been on oral letrozole; this was followed by a palliative mastectomy. In addition, she received parenteral bisphosphonates for metastases. Clinical examination was unremarkable. Blood biochemistry showed elevated calcium 12.8 mg/dL (N: 8.3–10.4) with an alkaline phosphatase of 61 U/L (N: 40–125) and creatinine of 0.7 mg/dL (N: 0.6–1.2), 25 OH vitamin D of 26 ng/mL (N: 30–75 ng/mL) and elevated parathyroid hormone (PTH) of 202 pg/mL (N: 8–50). Thus, she had a PTH-dependent hypercalcaemia and vitamin D insufficiency. We performed a sestamibi scan (figure 2A) and ultrasound of the neck (figure 2B), which revealed a right superior parathyroid adenoma. The present case had clinical and pathological features of metastatic breast carcinoma and serum chemistry and imaging features diagnostic of primary hyperparathyroidism (pHPT). A final diagnosis of pHPT in metastatic breast carcinoma causing hypercalcaemia was made. She was planned for parathyroid adenoma excision. In the hands of

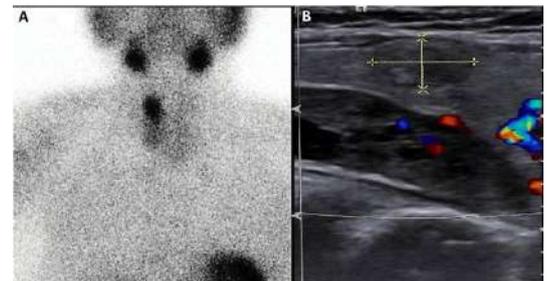


Figure 2 (A) The technetium sestamibi scan showed right superior parathyroid adenoma. (B) Ultrasound of the neck showed a concordant right superior parathyroid adenoma.

experienced parathyroid surgeon, minimally invasive parathyroid surgery (with excision of adenoma) carries negligible morbidity or surgical risk in the background of concordant functional and structural imaging localisation. Symptoms secondary to hypercalcaemia of pHPT (if hypercalcaemia is a predominantly contributed by parathyroid disease) will improve following excision of parathyroid adenoma and will have positive impact on quality of life. In addition, she was having stable metastatic disease over past few years and developed bone pains and fatigability recently.

In primary malignancy, hypercalcaemia is generally due to osteolytic metastasis or activity of circulating tumour-derived products.¹ pHPT is known to be associated with increased prevalence of malignant tumours, especially breast carcinoma. Parathyroid adenoma has been seen in increased frequency in breast cancer compared with healthy controls. Breast carcinoma comprises one of the most frequent malignancies (standardised incidence ratio: 1.27) diagnosed after treatment of pHPT.² The mechanisms of coexistence of pHPT

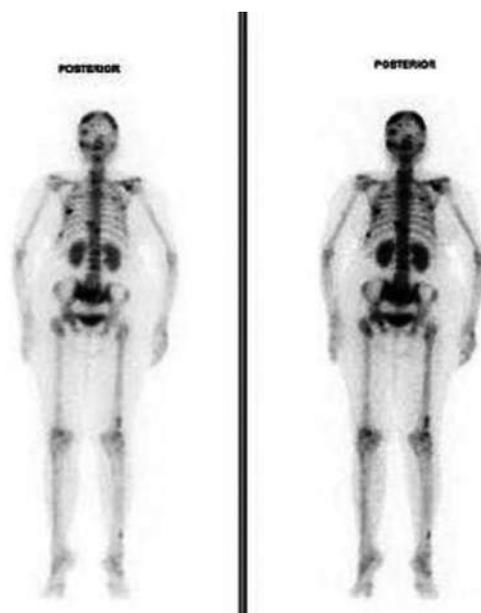


Figure 1 Bone scan had showed increased uptake in the skull, left humerus, multiple ribs, vertebrae, pelvic bones, bilateral femora and tibiae.



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Learning points

- ▶ In solid tumour malignancy, hypercalcaemia is generally due to osteolytic metastasis or activity of circulating tumour-derived products.

and malignancies are unknown. Both diseases can cause hypercalcaemia by independent mechanisms.³

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