Hyperparathyroidism a Differential Often Overlooked A Case Report

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CASE DETAILS

A 27-year-old female presented with persistent right shoulder and proximal arm pain and restricted joint mobility for 6 months following trivial trauma. Examination revealed a firm, tender swelling over the right proximal humerus and similar bony swellings over the mandibular symphysis and bilateral tibiae, causing mild facial deformity but no neurological deficits. She was initially diagnosed with metastatic bone disease, however, after undergoing various investigations and discussion in a multidisciplinary team (MDT) meeting, she was finally diagnosed with Osteitis Fibrosa Cystica (OFC) on the background of primary hyperparathyroidism (PHPT). She underwent parathyroid excision and recovered completely.

PRE-OP WORKUP

Parameter	Value	Reference Range	Units
Serum intact PTH (iPTH)	1642.8	15-68.3	pg/mL
Serum Total Calcium	13.6	8.4-10.2	mg/dL
Serum 25-OH Vitamin D	20.0	21-100	ng/mL
24h Urinary Calcium	396	100-300	mg/day

POST-OP WORKUP

Parameter	Value			Reference range	Units
	Pre-op	24h post-op	48h post-op		
Serum iPTH	1642.8	216.6	-	15-68.3	pg/mL
Serum total Calcium	13.6	12.1	10.1	8.4-10.2	mg/dL

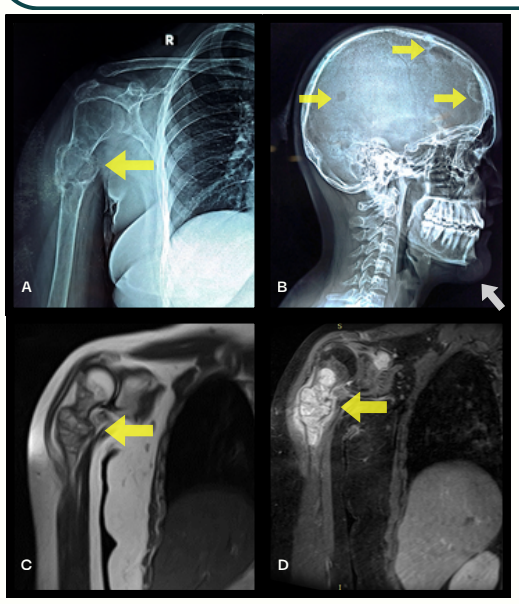

Figure-1: Pre-op radiograph and MRI of Rt shoulder and skull
(A) Exophytic heterogeneous lesion in the proximal shaft of right humerus with cortical thinning (yellow arrow)
(B) Multiple lytic lesions in skull (yellow arrows); exophytic outgrowth on mental symphysis (white arrow)
(C) MRI (T2W sequence) coronal section of rt shoulder and proximal humerus showing large heterogeneous expansile lesion, with mixed hyperintense and hypointense components (yellow arrow)
(D) MRI (T1W-FS-WFS sequence) coronal section showing heterogeneously hyperintense lesion with few hypointense septa (yellow arrow)

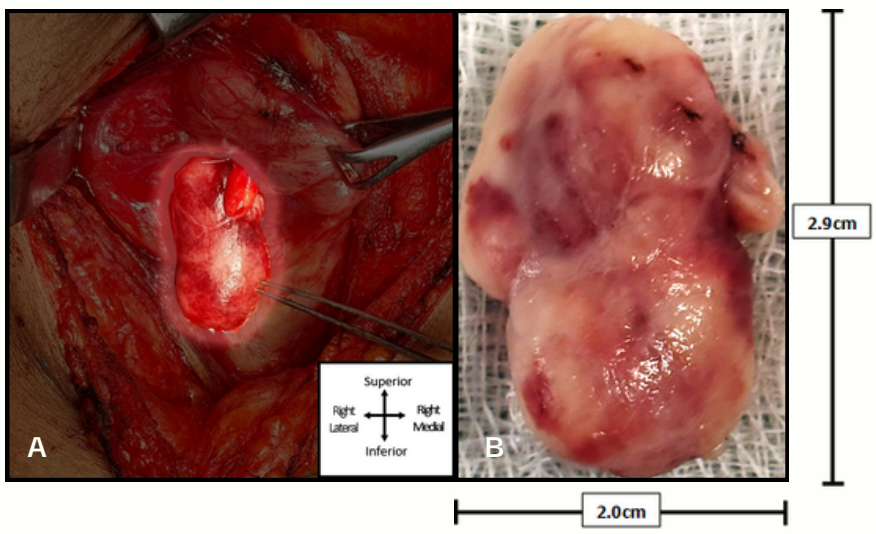

Figure-2: Intra-operative and post-operative picture of parathyroid gland
(A) Right inferior parathyroid gland with right lobe of thyroid retracted superomedially; legend given at right bottom for orientation purposes
(B) Resected right inferior parathyroid gland measuring 2.9 x 2.0cm

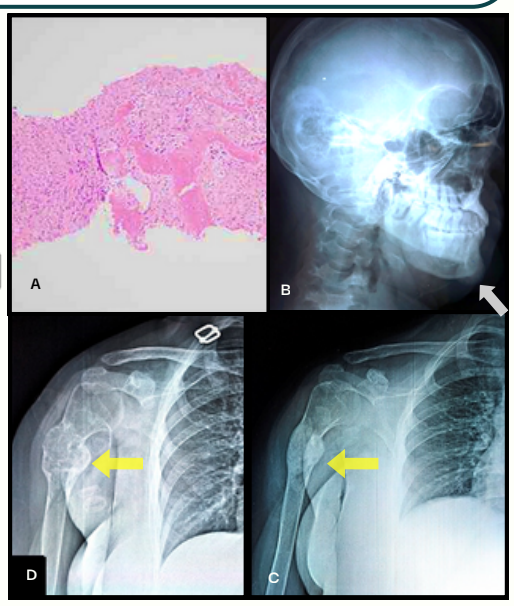

Figure-3: Photomicrograph and post-op radiographs at 1 & 6 months
(A) Biopsy of humeral lesion rich in giant cells (brown tumor)
(B) Fibrosis and size reduction of mental symphysis swelling (white arrow)
(C, D) Fibrosis of humeral lesion and gradual return to normal bone contour at 1 and 6 months, respectively

DISCUSSION & CONCLUSION

In contrast to the incidence of brown tumor in past, literature reports its current incidence to be only around 4.5% in PHPT. Common sites of brown tumors reported include mandible, clavicle, proximal humerus, ribs, pelvis and tibia. The initial misdiagnosis of this patient as a malignancy with bony metastases points to the fact that rarity of OFC must not misdirect our differentials. Any patient who presents with bony lesions must undergo thorough investigations before reaching a final diagnosis. Serum calcium and PTH levels play a significant role in such cases as does Sestamibi scan and CT/MRI. Finally, the differential of brown tumor (OFC) must not be overlooked in any patient who presents with solitary or multiple exophytic bony lesions.

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