Hypercalcaemic crisis secondary to a large cystic parathyroid adenoma

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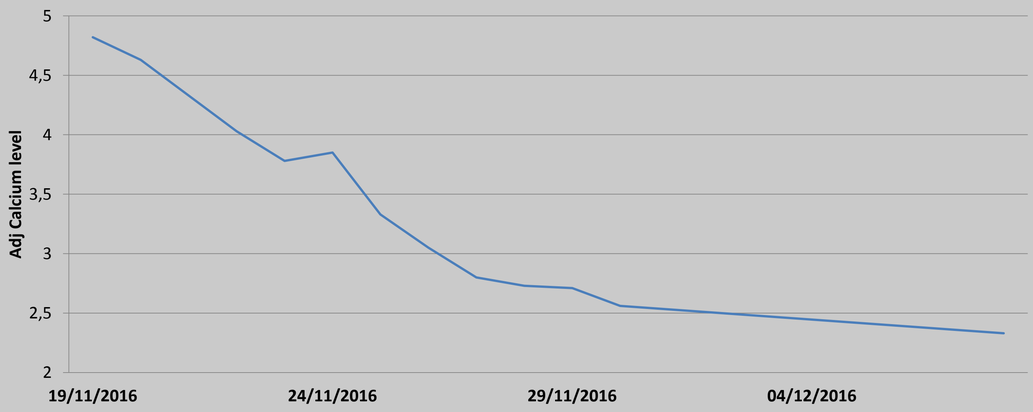
INTRODUCTION

- Hypercalcaemia is defined as an adjusted calcium level > 2.63 mmol/L; if adjusted calcium levels are >3.5mmol/L, this is classified as an hypercalcaemic crisis
- The commonest causes of hypercalcaemia are primary hyperparathyroidism and malignancy
- Parathyroid carcinoma should be considered in cases of primary hyperparathyroidism where PTH levels are markedly raised
- Parathyroid cysts are rare causes of primary hyperparathyroidism; >90% of parathyroid cysts are non-functioning
- We describe the case of hypercalcaemic crisis in an elderly lady with very high PTH levels where the diagnosis was not parathyroid malignancy

CASE

<u>An 82-year-old female admitted to the endocrinology ward with constipation, lethargy, poor appetite and weakness</u>

- She was found to be in **hypercalcaemic crisis** (adjusted calcium **4.82mmol/L**) and acute kidney injury (creatinine 169 micromol/L)
- PTH level was raised at 295pmol/L provoking the suspicion of an underlying parathyroid carcinoma
- ALP 131 IU/L and Vitamin D 73 nmol/L
- Myeloma screen negative, serum ACE normal and chest radiograph showed no pathology
- DEXA scan demonstrated osteoporosis
- She was medically managed with IV fluids, calcitonin and pamidronate – symptoms and calcium levels normalised
- Curiously, in 2013, she had also had an hypercalcaemic crisis complicated by acute pancreatitis (Ca 4.69 mmol/L, PTH 180 pmol/L) but had subsequently been lost to follow-up (remained clinically well between episodes, but calcium levels had not been checked)

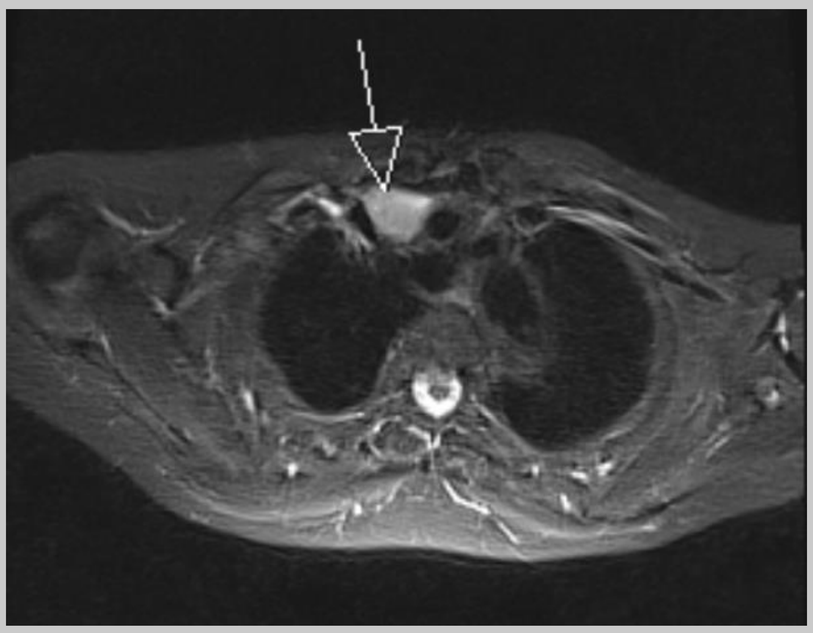


INVESTIGATIONS

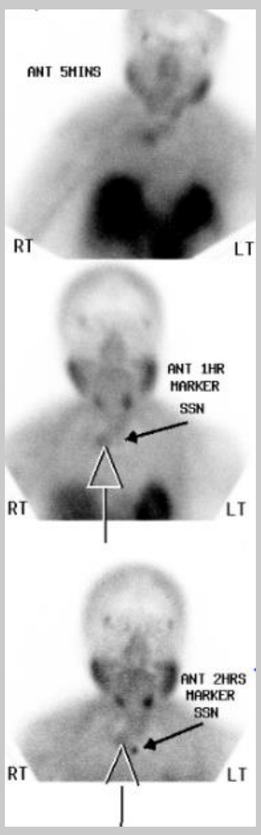
- Ultrasound neck identified a 32 x 21mm hypoechoic, avascular, cystic lesion which appeared to arise from the right sternoclavicular joint
- FNA was negative for any malignancy
- MRI neck demonstrated a well-circumscribed cystic lesion just posterior to the right sternoclavicular joint, which corresponded to a focus of increased activity on the Sestamibi scan

IMAGING

MRI



Sestamibi



MANAGEMENT

- As the imaging was concordant, a limited approach parathyroidectomy was undertaken
- A 3g nodule was removed and histology revealed parathyroid tissue, composed of sheets of chief cells with a part cystic/papillaroid arrangement, surrounded by a fibrous capsule. Mitoses and atypia were not evident - appearances were consistent with a **cystic parathyroid adenoma**
- Postoperatively, her calcium was 2.56 mmol/L and PTH 7.9 pmol/L

CONCLUSION

- This case highlights a rare case of cystic parathyroid adenoma that mimicked parathyroid carcinoma due to very high PTH levels and a suspicious neck mass
- Less than 350 cases of cystic parathyroid lesions have been reported in the literature - accounting for just 0.5-1% of parathyroid pathologies

References:

- Asgar A et al. A case report: Giant cystic parathyroid adenoma presenting with parathyroid crisis after Vitamin D replacement. BMC Endocrine Disorders, 2012, 12:14
- Da Silva D et al. Parathyroid cysts:diagnosis and treatment. Rev Bras Otorrinolaringol. 2004. V.70, n.6, 840-4
- Minisola S et al. The diagnosis and management of hypercalcaemia. BMJ. 2015 Jun 2;350:h2723

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Bone and calcium

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