INTRODUCTION

- Hypercalcaemia is defined as an adjusted calcium level > 2.63 mmol/L; if adjusted calcium levels are >3.5 mmol/L, this is classified as a 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

An 82-year-old female admitted to the endocrinology ward with constipation, lethargy, poor appetite and weakness.

- She was found to be in hypercalcaemic crisis (adjusted calcium 4.82 mmol/L) and acute kidney injury (creatinine 169 micromol/L).
- PTH level was raised at 295 pmol/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 21 mm 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 3 cm nodule was removed and histology revealed parathyroid tissue, composed of sheets of chief cells with a part cystic/papillary 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:

- Minisola S et al. The diagnosis and management of hypercalcaemia. BMJ. 2015 Jun 2;350:h2723