

A giant parathyroid cyst manifesting with a neck mass and hypercalcemic crisis

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Introduction:

Functional parathyroid cysts represent an uncommon cause of primary hyperparathyroidism (PHPT) and an even rarer cause of a cervical mass.

Case report

A 57-year-old woman was referred to our department following emergency treatment of hypercalcemic crisis (serum calcium 16.4 mg/dl) with intravenous hydration and zoledronic acid. She was found to have multiple vertebral fractures by plain radiographs one month previously. Despite being diagnosed and treated with cinacalcet for PHPT for a year prior to these events and a neck mass was noted, it was considered a cystic thyroid nodule. At presentation she had generalized weakness and left-sided neck discomfort with pressure symptoms. Her corrected serum calcium was 13.1 mg/dl, phosphate 0.9 mg/dl, PTH 330 pg/ml, alkaline phosphatase 260 (ULN 220 U/L) and kidney function was normal. Past history was notable for partial thyroidectomy in the 70s.

Clinical

On examination she was ill-looking and a firm, fixed cervical mass was palpable from the sternal notch to the jaw angle. On ultrasound, the mass was cystic with various septa and measured 9x4x4 cm. Needle aspiration of the cyst evacuated 45 ml of hemorrhagic fluid, with PTH washout levels measuring 570 pg/ml. Within the next two weeks, a hematoma formed that resolved uneventfully, but the cyst recurred almost to its original dimensions, again causing local pressure. At surgery, the cyst measured 6.4x4x4 cm and histology was consistent with hemorrhagic cystic necrosis of parathyroid adenoma surrounded by an intact thick (0.2-0.5 cm) fibrous capsule without evidence of local invasion. Postoperatively, serum calcium and phosphate were 8.6 mg/dl and 3.8 mg/dl respectively. The patient remains normocalcemic on calcium and vitamin D supplementation 9 months after surgery.

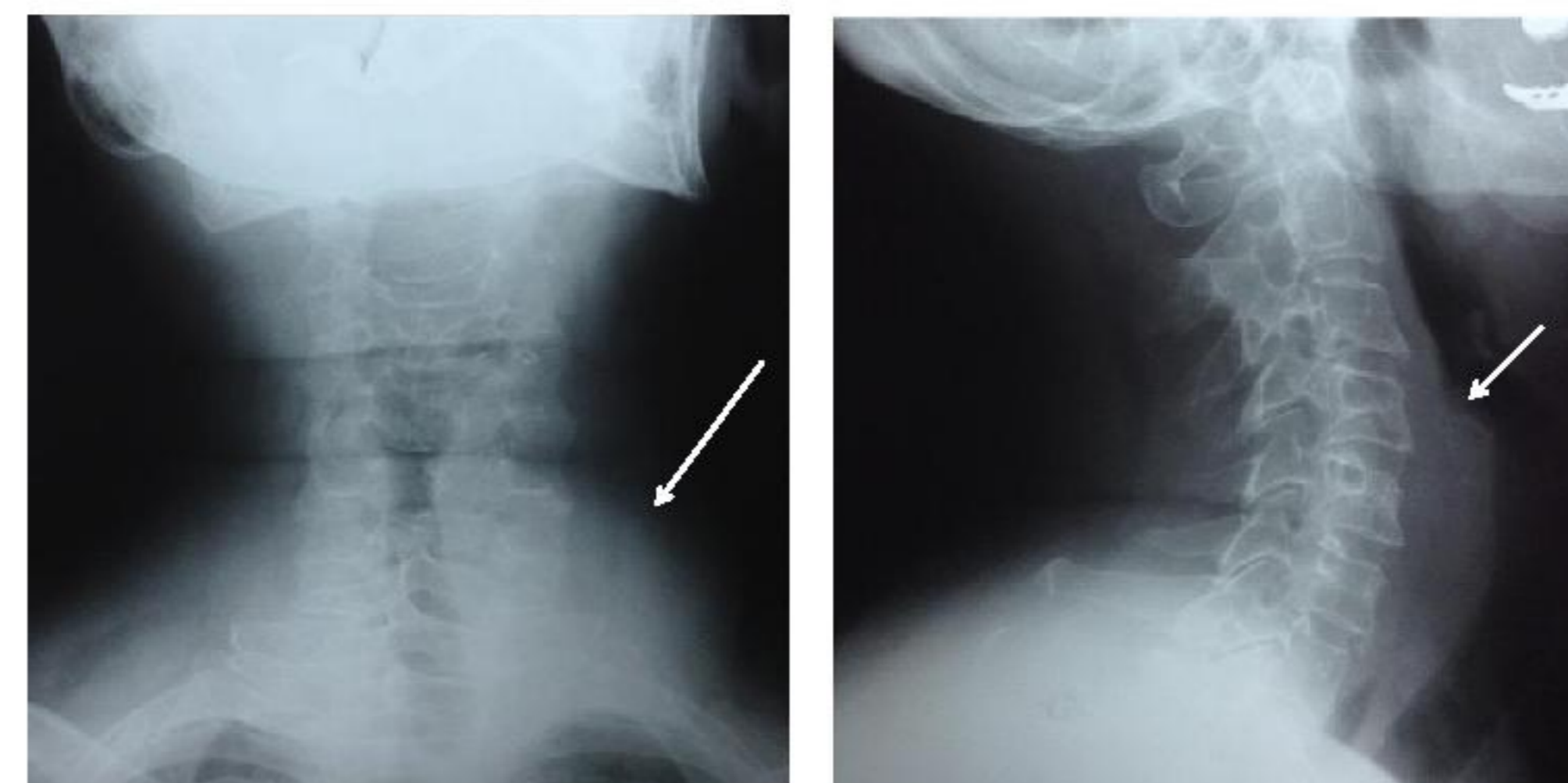


Figure 1, 2: Face and lateral cervical X-Ray

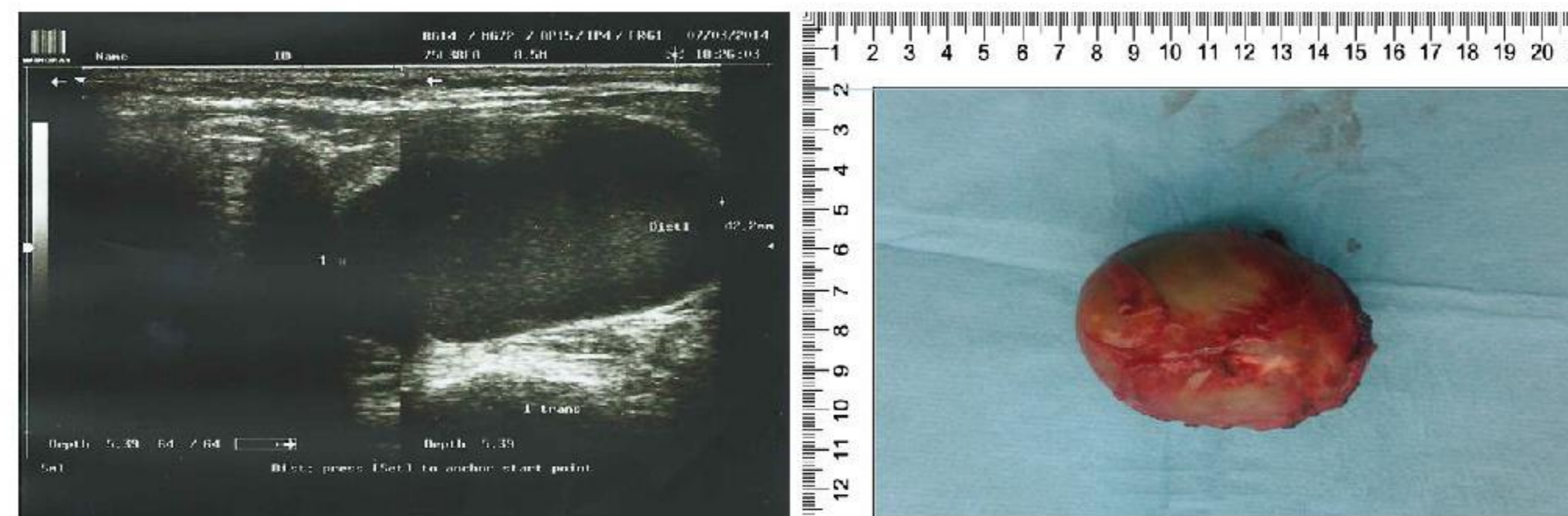


Figure 3: Transverse ultrasound view of the cyst. Figure 4: Gross surgical specimen.

Conclusion

This case highlights that a large functional parathyroid cyst can elude diagnosis because of its rarity; however, early identification is crucial for proper patient management.

References

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