Non-Functioning Parathyroid Adenoma; a Rare Case

Peter Ucciferro, Janna Prater, Nissa Blocher, Daniel Eisenberg, Catherine Anastasopoulou
Einstein Medical Center, Philadelphia
Department of Endocrinology

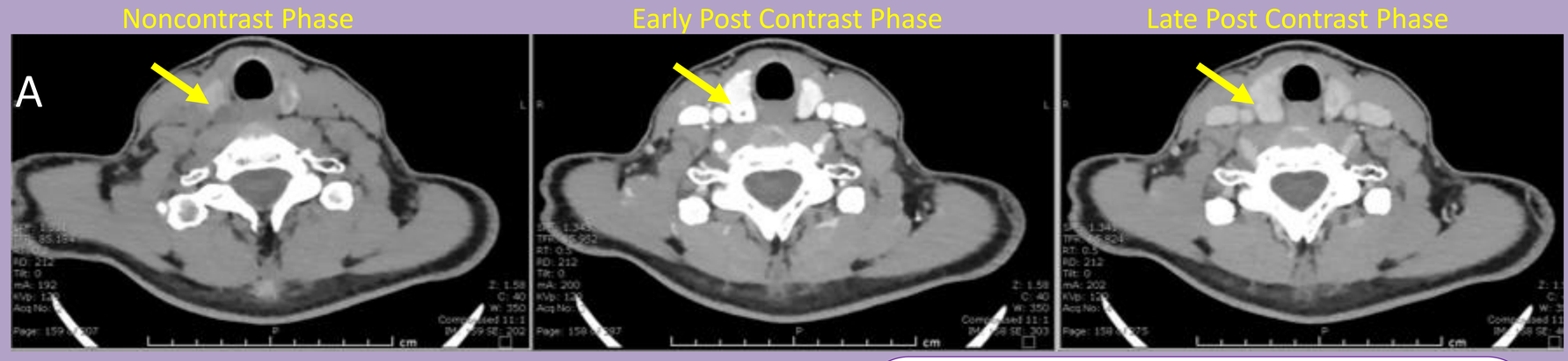
Background

Parathyroid adenomas are very commonly recognized, and they usually present as primary hyperparathyroidism (PHPT) with elevated parathyroid hormone levels accounting for 80% of all cases of PHPT (1). To date very few cases of parathyroid adenomas which do not secrete excess parathyroid hormone have been documented (2). We present a patient with neck mass appearing to be non-secreting parathyroid adenoma.

Case Presentation

A 53-year-old female presented to endocrinology clinic for evaluation of "thyroid nodule."
Prior to her presentation, the patient noticed a small lump in her neck. A thyroid ultrasound (US) revealed a nodule adjacent to posterior capsule of the right upper lobe of the thyroid. Fine needle aspiration was performed but was nondiagnostic. Two months later is when we see the patient.
Relevant labs: Ca 10.5mg/dL (8.4-10.3), Albumin 5.3g/dL (3.5-5.0), corrected calcium 9.5, PTH 25pg/mL (9.0-73.0), 25 OH vitamin D 40ng/mL, TSH 2.8mcIU/mL (0.35-4.94).
Physical exam was unremarkable, except for slight prominence of the right lobe of the thyroid gland.
Parathyroid Sestamibi Scan showed no enhancement of the right sided lesion. A 4D CT of the neck revealed a 0.7 x 1.0 x 1.5 cm ovoid mass posterior to right upper pole of thyroid gland with arterial enhancement and washout on delayed phase, consistent with parathyroid adenoma.
Serum metanephrines, normetanephrines, chromogranin A, CEA, and calcitonin levels were found to be within normal limits, making paraganglioma diagnosis highly unlikely. A repeat thyroid US 6 months later showed stable appearance of the mass. PTH and Ca levels also remained within normal limits.
Eight months after the initial discovery of the mass, the patient is doing well with no plan for repeat FNA or surgical removal.

Parathyroid Mass



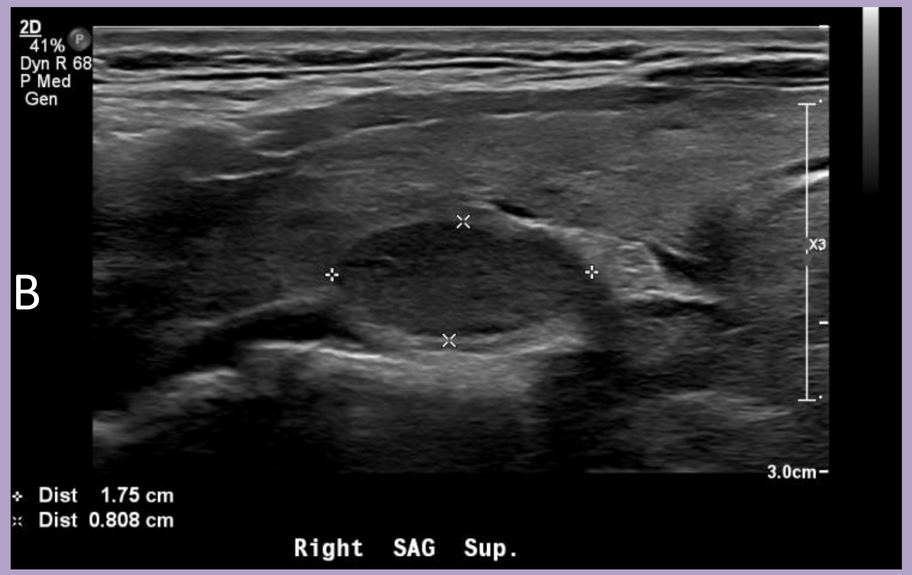


Figure 1: A. 4D Parathyroid CT showing right sided mass with characteristic appearance and enhancement of parathyroid adenoma. B. US revealing hypodense mass posterior to right lobe of thyroid.

Discussion

To date there are only a few case reports of non-functioning parathyroid adenomas and all were surgically removed which leaves their natural course of disease relatively unknown. Our case is the first to our knowledge where the mass has been left for observation which potentially can provide insight into the behavior and possible complications, if any, from clinical observation being the sole management approach of a nonfunctioning parathyroid adenoma. Our plan is to continue monitoring the adenoma with US and biochemical testing and at this point we do not plan to have surgical consultation unless the patient develops compressive symptoms or calcium abnormalities.

References

1.Bilezikian. Primary Hyperparathyroidism. J Clin Endocrinol Metab 2018; 103(11): 3993-4004
2.Poppe K, Pipeleers-Marichal M, Flamen P, Bossuyt A, Lamote J, Vanhaelst L, et al. Non-secreting atypical parathyroid adenoma. J Endocrinol Invest 2001; 24:107–10