What’s Your Diagnosis?

**Patient Presentation:** 57-year-old woman with history of hypercalcemia and elevated parathyroid hormone.

**Studies Performed:** Ultrasound and Nuclear Medicine Tc-99m Scintigraphy, with middle image acquired immediately after radiotracer injection and bottom image acquired 2.5 hours later.

**Finding:** Ultrasound images demonstrate a homogenous hypoechoic extrathyroidal mass abutting the lower aspect of the left thyroid lobe. The nodule is hypervascular supplied by an extrathyroidal feeding vessel. Tc-99m sestamibi scintigraphy demonstrates intense radiotracer uptake in a mass abutting the inferior left thyroid on both immediate and delayed images.

Diagnosis of Parathyroid adenoma

**Key Points:** Primary hyperparathyroidism is the most common cause of hypercalcemia in healthy outpatients. A solitary parathyroid adenoma is the cause of primary hyperparathyroidism in 90% of patients. Less common causes include double adenomas, hyperplasia, and parathyroid carcinoma. There is an increased incidence of parathyroid adenomas in multiple endocrine neoplasia syndromes.

MRI and CT are less commonly used for workup of a parathyroid adenoma. MRI may be used for persistent or recurrent hyperparathyroidism.

Surgery is the definitive treatment.

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Case and images courtesy of www.auntminnie.com December 23, 2014

3T MRI • 1.5T MRI • 1.2T Open MRI

MR Angiography • CT • CT Angiography

Arthrography • Myelography • Fluoroscopy

Nuclear Medicine • PET/CT

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