MANAGEMENT OF SUBSTERNAL GOITER

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Endorama 1/15/15
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• Category: Thyroid
• Attendings: Angelos & Grogan
83yo woman with a R substernal goiter diagnosed in 2006 with increasing dysphagia

**PMH:** schizoaffective disorder, bipolar disorder, DM2, htn, kidney stones, osteopenia diverticulitis

**Meds:** risperdal, metformin, asa, zocor, valsartan-hctz

**Labs:** TSH 0.59 (nl 0.3-4.0 mcU/mL)
Thyroxine 7.3 (nl 5.0-11.6 mcg/dL)
**Ultrasound:**

- R lobe diffusely enlarged with diffuse solid nodularity, limited ability to measure, L lobe normal in size

**CT Chest:**

- **thyroid:** large, heterogenous R thyroid lobe extending into mediastinum measuring 13.5 x 6.4cm (previously 11.4 x 5.4cm)
- **vessels:** brachiocephalic & L carotid patent, splayed around lesion; R carotid & jugular displaced laterally, SVC indistinguishable with azygous and IM systems prominent

**FNA Path:** Colloid
PATIENT #2

78 yo woman with a substernal goiter diagnosed in 1986

PMH: atrial fibrillation s/p cardioversion, MI, hyperthyroidism, LBBB, pulmonary edema, ovarian ca s/p chemotherapy, GERD, BRCA1, adhesive SBO, EKG sinus brady

Allergies: 24 various medications

Medications: asa, amiloride, caltrate, methimazole, metoprolol, esomeprazole, enalapril

SH: retired sales manager
HISTORY OF PRESENT ILLNESS

HPI:
• 1986-1999: dx, given synthroid to attempt to shrink
• 1999: became hyperthyroid secondary to synthroid
• 2007: started on methimazole, then stopped
• 2014: restarted methimazole, currently off with TSH <0.005

Imaging:
• Ultrasound: R lobe 4 x 1.6 x 1.1cm, L lobe 8.3 x 8.7 x 8.6cm with scattered calcifications and substernal extension
• Chest CT: large L thyroid mass extending into the substernal area that measures 6.4cm with right sided tracheal deviation. Unchanged from previous scan in 2009
976 pts underwent thyroidectomy over an 8 year period
– Mediastinal mass defined as at least 50% of the thyroid below the thoracic inlet: 94pts (9.6%)
– 94 patients with substernal goiter (9.6%)
  • 29% required thoracic operation
    – 21 partial sternotomies, 5 full sternotomies, 1 R posterolateral thoracotomy
  • 16% pts had malignancy (14 PTC, 1 FTC)
– More likely to require thoracic approach if:
  • Malignancy, reoperative neck, posterior or aberrant mediastinal thyroid masses
665 patients had thyroidectomy over a 7 year period
- 42 (6.3%) had substernal goiter
  - All had surgery; 9.5% required sternotomy

Indications for sternotomy
- Extension of goiter below the aortic arch
- Large thyroid tissue extending towards tracheal bifurcation
- Ectopic thyroid tissue in the mediastinum