AACE Thyroid Cancer Tumor board
25 years of the Endocrine and Surgery collaboration

Dr. Peter Singer, Endocrinology
Dr. Peter Sadow, Pathology
Moderator Dr. Greg Randolph, Otolaryngology
Relevant Financial Disclosures - None
Case 1. Clinical History

- 75 year old woman presented with complaints of
  - Enlarging neck mass for the past 12 years – increased growth experienced since the last 2 years
  - History of Partial thyroidectomy done for Papillary thyroid carcinoma in 2003 at Boston hospital
  - Residual mass in the neck kept on enlarging – received 4 rounds of radio-iodine – no improvement. Refused surgery. The mass continued to grow → papillary thyroid carcinoma on FNA done at an outside hospital.
  - No other complaints of dysphagia, dyspnea or hoarseness
Physical Examination

- Well developed, well nourished female


- Lower end of the mass is not palpable – going below the clavicle

- Bilateral Cord motion - intact
Physical Examination
IMAGING

Dr. Hillary Kelly
OR

Revision Lateral and Central Neck Dissection with SCM muscle and posterolateral skin resection with RLN monitoring
Cystic lymph node metastasis
H&E stain, 20X magnification
Prominent tall cells with hemosiderin deposition
H&E stain, 400X magnification
Prominent tall cells with train track appearance
H&E stain, 400X magnification
Prominent tall cells of PTC
H&E stain, 1000X magnification
Braf + immunostain, 400X magnification
Final Pathologic Diagnosis

• Metastatic papillary thyroid carcinoma, tall cell variant, multifocal, present in a 10.5 cm mass with some discrete lymph nodes and other combined foci, infiltrating subcutaneous tissue, connective tissue and skeletal muscle
• No higher grade transformation of the tumor is noted
Case 2. Clinical History

• History
  • 49 M voice professional with 1.0 cm left nodule
  • No risk factors

• Investigations
  • **US**: + 1.1 cm Hypoechoic, +hypervasc, -microcalc
  • CT: 1 cm left no posterior capsular abutment
  • FNA left-suspicious for follicular neoplasm
  • Afirma GEC—Suspicious for malignancy
  • Asuragen panel—**RAS+**, RET/PTC-, BRAF-, PAX8/PPAR -

Doesn’t want surgery unless he really needs it
Doesn’t want bilaterally surgery unless he really needs it
• Voice and flexible fiberoptic endoscopy normal
• Surgery  Feb 2013
  • left hemithyroidectomy

• Pathology
  Unencapsulated follicular lesion (.9 cm) with mild nuclear and architectural atypia, not diagnostic of either papillary carcinoma or follicular carcinoma on hematoxylin/eosin stained slides.

  SNaPshot Analysis
  Confirmed presence of **+HRAS** mutation in Codon 61 (a finding which may be seen in follicular adenomas (20-45%), follicular carcinoma (30-50%), and papillary thyroid carcinoma (up to 20% and usually follicular variant))

I think I’ve cured you of a premalignant lesion
• Path re-reviewed:

  .9cm FVPTC, no lymphovascular invasion
• Completion thyroidectomy:
  -2 foci PTC 4mm and 2mm
  -Attached LN with 2mm focus of PTC in isthmus region
• After completion he notes loss of singing voice
  Laryngeal exam normal
• Wants RAI, Hx parotitis in past
Case 3. Clinical history

68 years old, black female
No risk factors, neg FHx

- April 2008 – Thyroid nodule was felt by her ENT in Bermuda
  - US: Right 2.1 cm
  - FNA-biopsy nondiagnostic
• Physical Exam:
  • Thyroid 2cm right nodule, no adenopathy, voice and flexible fiberoptic endoscopy normal

• US April 2009:
  • Right 2.1 cm hypoechoic w/ calcification
  • Left lobe negative, no lymphadenopathy

• FNA-biopsy April 2009
Medial abutment of the lesion at the medial aspect of the thyroid lobe
cytology slide
pathology slide
Clinical follow-up

What is this lesion?

Does this patient need completion thyroidectomy?

Does this patient need radioactive iodine?

What's a follow-up does this patient need?

What is the molecular basis of this lesion?
AACE Thyroid Cancer Tumor board
25 years of the Endocrine and Surgery collaboration

Dr. Peter Singer, Endocrinology
Dr. Peter Sadow, Pathology
Moderator Dr. Greg Randolph, Otolaryngology
Thank you