Case Presentation: “Lateral Aberrant Thyroid”

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Case Presentation:

Age: 50 y

PE:
3cm Ø Rt. Thyroid Lobe Cystic Mass + 3cm Ø Sub mandibular Mass

Lab.:
TSH = Normal

Imaging: Cxt: mild tracheal deviation Rt. to Lt.
US 2006: Rt.Thy 18x15x10mm, Rt.Neck 32x13mm
US 2008: Rt.Thy 26x25x22mm, Rt.Neck 37x17x13mm
CT 2008: Rt.Thy 26x17mm, Rt.Neck 26x17mm, LN+

Pathology:
FNA 2006 LN: Follicular lesion? Ectopic tissue?
FNA 2008 LN: Colloid? inadequate tissue?
FNA 2008 Rt. Thy.: Colloid?
US Rt. Thyroid Lobe
US Sub mandibular Mass
CT Rt. Thyroid Lobe
CT Rt. Thyroid Lobe
CT Sub mandibular Mass
CT Sub mandibular Mass
Case Presentation : cont.

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Imaging:  US 2006: Rt.Thy 18x15x10mm, Rt.Neck 32x13mm  
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Pathology:
FNA 2006 LN: Follicular lesion? Ectopic tissue?
FNA 2008 LN: Colloid? inadequate tissue?
FNA 2008 Rt. Thy.: Colloid?
Eltroxin?
Consultant Endocrinologist (2009)

Surgery?

recommend surgery for rt. upper neck mass
Operation?
Thyroid / Sub mandibular?
Eltroxin?
Observation?
Operation!
Thyroid Mass +
Sub mandibular Mass
Rt. Thyroid Lobectomy and Isthmectomy
+
Rt. Lateral Neck Mass Excision
Pathology

Rt. Thyroid Lobectomy and Isthmectomy
+ Rt. Lateral Neck Mass Excision
= Multinodular Goiter with Focal Cystic Degeneration and Fresh Hemorrhages
Discussion

Congenital Thyroid Diseases:

- Agenesis /Aplasia
- Hypoplasia
- Accessory or aberrant thyroid glands
- Thyroglossal duct cyst
Ectopic Thyroid:

- Lingual Thyroid
- Thyroglossal Duct Cysts
- Suprahyoid and Infrahyoid Thyroid
- Lateral Aberrant Thyroid
- Substernal Goiters
- Struma Ovari
- Struma Cordis
Lateral Aberrant Thyroid: Embryologic variation?

Historically, the thyroid tissue described in lateral neck compartments was known as lateral aberrant thyroid tissue and was explained as an embryologic variation.
**Thyroid:**
1\textsuperscript{st} endocrine gland
Day \sim 24\textsuperscript{th} gestation
Proliferation of \textit{endodermal} cells on midline pharyngeal floor
Between 2 key structures:
- tuberculum impar
- Copula
…called “\textit{foramen cecum}”
Discussion: Embryologic variation

Development of Thyroid gland:

thyroid gland originates from b/w 1st and 2nd pharyngeal pouches
Diverticulum
Foramen cecum
Thyroid gland migration
Branchial Apparatus

- Pharyngeal pouch
- Artery
- Endodermal epithelium
- Nerve
- Cartilage
- Ectodermal epithelium
- 1st pharyngeal arch
- Pharyngeal cleft
- 2nd arch with nerve, artery, and cartilage
- 3rd arch
- 4th arch
- Mesenchymal tissue in 4th arch
- Laryngeal orifice
Branchial Apparatus

A

Mandibular process

Pharyngeal clefts

1

2

3

4

Epicardial ridge

Maxillary process

B

Pharyngeal pouches

1

II

III

IV

External auditory meatus

Primitive tympanic cavity

Auditory tube

Palatine tonsil

Parathyroid gland (inferior)

Thymus

Cervical sinus

Parathyroid gland (superior)

Ultimobranchial body
Discussion: Embryologic variation
Discussion: Embryologic variation
THYROID - DEVELOPMENT

FORAMEN CAECUM
Site of origin of thyroglossal duct between floor of branchial arches 1 and 2

THYROGLOSSAL DUCT
Endodermal downgrowth of thyroid epithelium from it. Developing tissue invades hypobranchial mesenchyme which gives capsule and septa

RETROSTERNAL THYROID

* Sites of thyroglossal cysts (move up with protrusion of tongue), remnant thyroid tissue (lingual thyroid), fistulae, sinuses & pyramidal lobe
Development of Thyroid gland
Coronal section in the pharyngeal arches
Lateral Aberrant Thyroid:

Metastatic deposits from well-differentiated thyroid carcinoma?

This concept has essentially been disproved, and it is thought that any thyroid tissue found in the lateral aspect of the neck, including around the vascular structures of the neck, may represent metastatic deposits from well-differentiated thyroid carcinoma.
Discussion

Eltroxin:

This concept has essentially been...
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