Headmirror's ENT in a Nutshell
Thyroglossal Duct Cyst
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Presentation (0:30)

- Symptoms
  - Persistent *midline* neck mass.
  - Most common congenital neck mass. 7% of the population. 1/3 of all congenital neck masses
  - Asymptomatic or infected (erythematous, edematous, warm) prompting presentation.
  - Often not present at birth. 2-years or older, rarely adult.
  - Rare symptoms: trouble swallowing, breathing

Pathophysiology (1:50)

- Persistent tract from descent of thyroid gland.
  - Thyroid gland develops at the base of the tongue (foramen cecum) at 3 weeks gestation.
  - Descends down the midline prior to the hyoid cartilage being formed, anterior to hyoid cartilage.
  - If any part of the tract remnant doesn't involute, TGDC forms.
  - Generally anterior/inferior to the hyoid, but can present anywhere along tract.

- Histopathology: cyst is histologically composed of epithelial lining of squamous or pseudostratified ciliated columnar epithelium with or without ectopic thyroid gland tissue

Workup (3:39)

- Differential diagnosis (Pediatric midline neck mass)
  - TGDC, Dermoid, lymph node
  - Other: vascular malformation, hemangioma, brachial cleft cyst, epidermoid cyst, laryngocele, lymphoma, metastatic papillary thyroid cancer, atypical mycobacteria
  - In adults: squamous cell carcinoma, papillary thyroid cancer

- History
  - How long has it been present?
  - Changes in size?
  - Signs of infection? Drainage from mass?
  - Family history of head or neck cancer/masses? Thyroid cancer/lymphoma

- Physical Exam
  - Mobile, midline
    - Infrahyoid
    - Classically, elevates with sticking out tongue
  - Skin changes: rare, but can occur if prior infection
  - Typically painless

- Imaging
  - Ultrasound: assess for normal thyroid gland, may assist with characteristics of mass
    - Ultrasound lateral neck for other lymphadenopathy
  - CT with contrast rarely needed unless if abnormally large or abnormal site

Treatment (8:05)

- Surgical: Sistrunk procedure
    - Indication: removal to prevent infection, confirm diagnosis, rarely (<1%) TGDC contains papillary thyroid carcinoma or squamous cell carcinoma
    - Remove entire cyst, tract, middle portion of hyoid bone (1 cm bone), and cuff of musculature at base tongue
    - Prevents recurrence
    - Complications: recurrence of TGDC (5% with Sistrunk), hypoglossal nerve injury (if dissecting too laterally)

- Infected TGDC
    - Antibiotics. Needle aspiration if large
    - Removal once infection subsides

- Special circumstance: No other thyroid tissue
    - May consider waiting on surgical removal
    - Labs: thyroid function testing
    - If infected, likely still needs removal
    - Endocrine consult for lifelong thyroid supplementation