Cystic Head and Neck Lesions

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Key points
• Huge variety of cystic lesions in H&N
• May be cystic, necrotic, or solid but cystic-appearing
• Patient age, clinical history, lesion location can narrow DDx
• Always consider infection and malignancy!

Case 1
• 25 yo M with URI, enlarging neck mass

What is the best treatment?
A. Antibiotics
B. Incision and drainage
C. Resection of the mass and part of hyoid

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Disclosures
• None
**Thyroglossal duct cyst**

- **No DDx**
- Classic findings for **thyroglossal duct cyst**
  - Midline or paramedian, at hyoid (50%), cystic
  - Enhancing wall if infected
- Treat with Sistrunk procedure

**Case 2**

- 35 yo M with enlarging neck mass

**Thyroglossal duct cyst carcinoma**

- 2% of thyroglossal duct cysts
- Almost always (95%) papillary thyroid carcinoma

**Case 3**

- 24 yo F with floor of mouth mass seen by dentist

**Most likely diagnosis?**

A. Abscess  
B. Dermoid  
C. Lymphatic malformation  
D. Ranula
Most likely diagnosis?
A. Abscess
B. Dermoid
C. Lymphatic malformation
D. Ranula

**Ranula**
- Retention cyst related to trauma or inflammation of sublingual gland
- **Simple**: confined to sublingual space; horseshoe-shaped if bilateral
- **Diving**: dives into submandibular space, +/- “tail” of residual submandibular fluid
- **DDx**: lymphatic malformation, dermoid (fat), epidermoid (DWI+), abscess

**Case 4**
- 23 yo M with gradual onset jaw/neck swelling on the right; h/o prior episodes
- Infected diving ranula
- “Tail” of residual fluid in sublingual space
- Thick enhancing wall
- Treat with antibiotics, then excision of sublingual gland or sclerotherapy (among other options)

**Case 5**
- 62 yo M with floor of mouth swelling for 2 weeks; started with URI
- Tongue abscess
- Treat with I&D and antibiotics
- Specific location of an infected cystic lesion matters for treatment
Case 6
• 19 yo F with slowly growing non-painful submandibular mass

Recommendation?
A. Antibiotics
B. Aspiration
C. Biopsy
D. MRI

Lymphatic malformation
• Congenital slow-flow vascular malformation; most present < 2 yo
• Transspatial, multilocular, +/- fluid-fluid levels, solid-appearing components
• Treat with sclerotherapy and/or surgery
**Case 7**
- 2 yo M with left neck swelling

**Infected 2nd branchial cleft cyst (type II)**
- Most common location (type II): anterior to SCM, posterolateral to submandibular gland, lateral to carotid space
- Most present < 5 yo; DDx in >30 yo: metastatic node

**Case 8**
- 23 yo M with enlarging neck mass x 8 days

**2nd branchial cleft cyst**
- Surgical pathology: “irritated branchial cleft cyst”

**Case 9**
- 51 yo F with neck mass x 2-3 months

**2nd branchial cleft cyst**
- No malignant cells on FNA, no other lesions on CT or laryngoscopy
- Even so, caution is advised in any patient >30 yo
Case 10

• 30 yo F with neck mass and type 1 DM

At supraclavicular level

At level of cricoid

What is it?
A. Infection
B. Malignancy

How can we decide?

• History is key!
  • Type 1 DM
  • Accidental needle stick with old needle 2 wks ago
  • Mass is red and tender

• Look for septic pulmonary emboli

Case 11

• 72 yo M with slowly growing neck mass

Necrotic metastatic node

• Patient has RCC
• Metastatic left supraclavicular node also know as sentinel node or Virchow’s node; associated with abdominal and pelvic malignancy

Case 12

• 38 yo M with left lateral tongue SCCa
Necrotic metastatic node

• History helps

Case 13

• 30 yo M with R neck pain/swelling x 2 wks

Most likely diagnosis?
A. Infection
B. Lymphoma
C. SCCa
D. Thyroid cancer
Metastatic differentiated thyroid carcinoma (DTCa)

- Papillary or follicular carcinoma
- Suspect DTCa if:
  - Nodal mass(es) in young female
  - Bilateral low neck (level IV, V, VI) nodes
  - Cystic or mixed cystic/solid nodes +/- calcs
  - T1 hyperintense nodes

Case 14

- 36 yo F with lump in neck for 1 year

Most likely diagnosis?
A. Carotid body tumor
B. Infection
C. Malignancy
D. Schwannoma
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A. Carotid body tumor
B. Infection
C. Malignancy
D. Schwannoma

Schwannoma
• Circumscribed, ovoid/fusiform, T2 bright, no flow voids
• Intratumoral cysts if large
• In neck, most commonly from sympathetic chain or CN X
• DDx:
  • Carotid body paraganglioma: splays carotid bifurcation, flow voids
  • Neurofibroma: low density on CT, a/w NF1
  • Metastatic lymph node: history is key

Case 15
• 48 yo M with an incidental finding

Laryngocele
• Internal laryngocele: dilated laryngeal saccule in paraglottic region of supraglottis; contains air or fluid
• Mixed (external) laryngocele: extends laterally through thyrohyoid membrane
• Usually related to chronic coughing, etc, but look for infiltrating mass

Internal vs external laryngocele

Case 16
• 62 yo M with an incidental finding
Zenker diverticulum

- Extends posterior to esophagus, with opening into pouch at level of C5-C6 (just above cricopharyngeus muscle)
- Associated with esophageal dysmotility, regurgitation, aspiration
- DDx: Killian-Jamieson diverticulum is lower and protrudes laterally

Tracheal diverticulum

- Typically right paratracheal above thoracic inlet; may see connection to trachea
- Congenital or acquired; a/w COPD
- Usually asymptomatic but can become infected

Case 17

- 40 yo F with an incidental finding

Summary: a few pearls

- Distinction between an abscess and infected TGDC, ranula, or BCC matters
- If Dx is TGDC, BCC in >30 yo, or laryngocele, look for malignancy
- Low neck masses in young woman, esp cystic or calcified → suspect DTCa
- Patient age, clinical history, and lesion location can narrow DDx

References