

Peritonsillar Abscess

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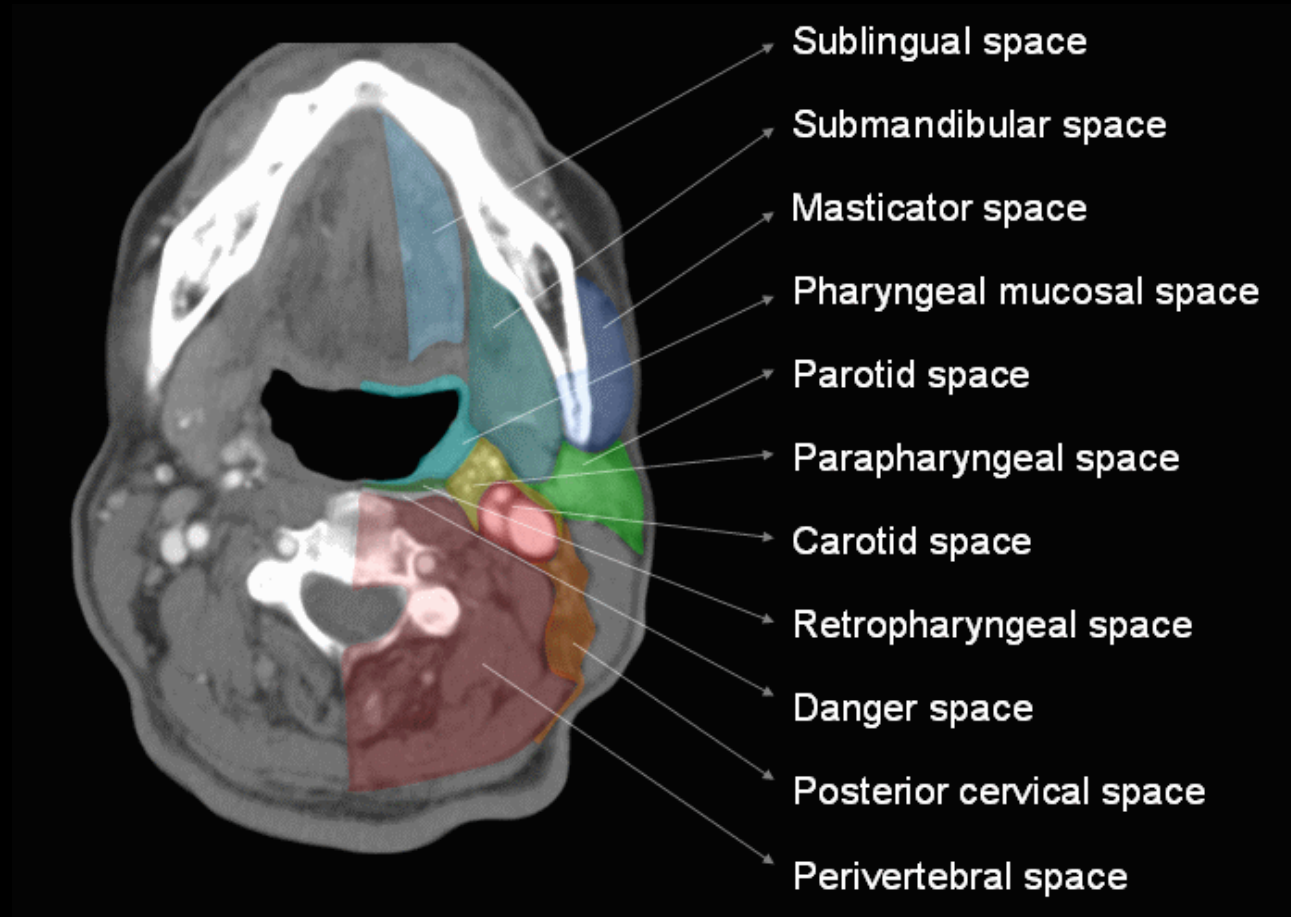
Rad 4001

Dr. Patino and Dr. Clark

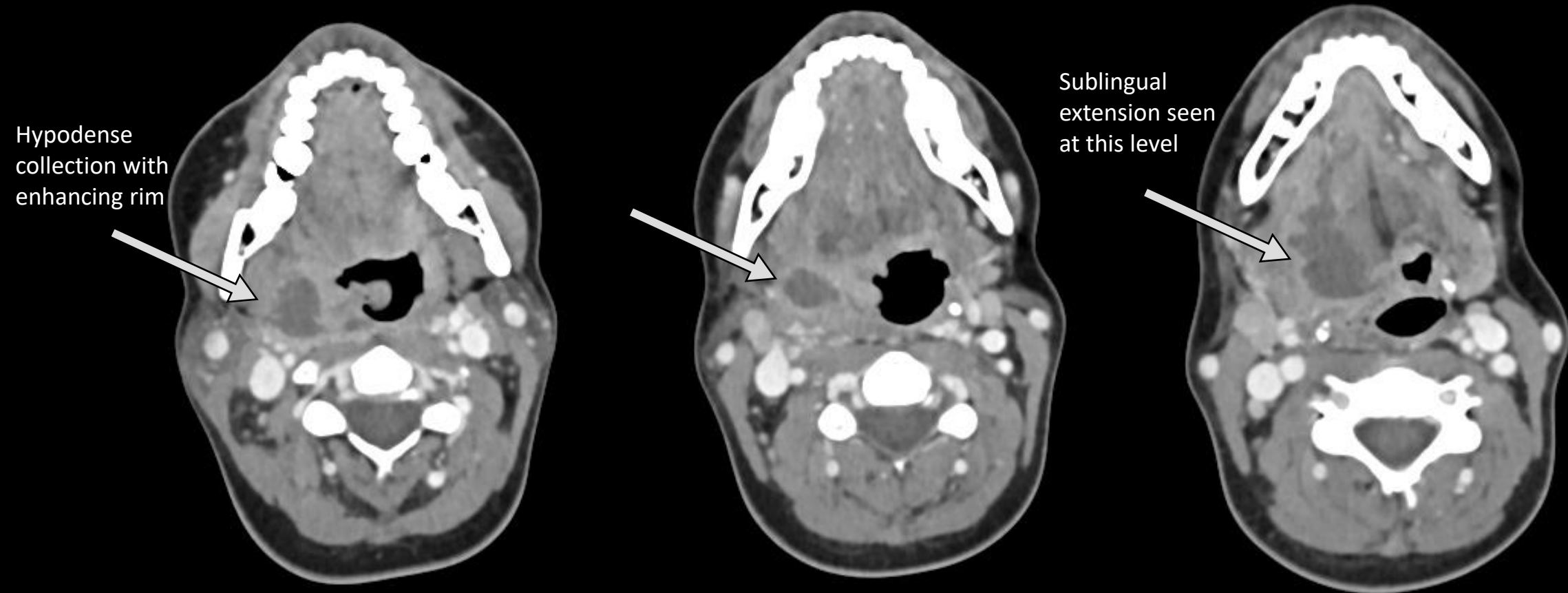
Clinical History

- 40F w/ PMH of gastritis, diverticulitis, hiatal hernia, and Barrett's esophagus presents with sore throat and vocal changes.
 - Patient initially presented to outside urgent care with sore throat and vocal changes. Neck CT at that time showed no signs of infection.
 - Patient returns 2 days later with worsening symptoms and found to have an abscess. I&D was performed, pt given Augmentin and steroids.
 - Her symptoms continued to progress until she presented here 5 days after initial symptoms with worsening sore throat, swelling, odynophagia and vocal changes.
- Physical Exam
 - Posterior pharyngeal erythema, R peritonsillar swelling, leftward uvula deviation, and slight hoarseness
 - Vitals were WNL

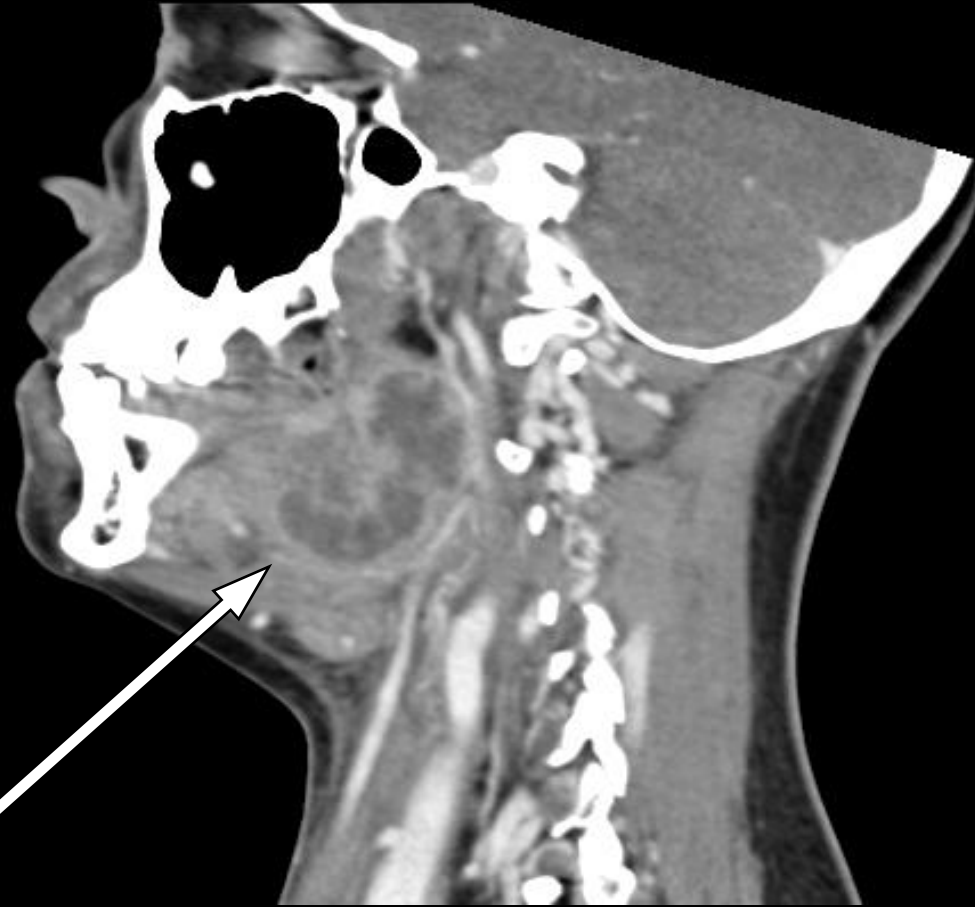
Neck Spaces



Relevant imaging



Relevant Imaging



Multiloculated hypodensity
with sublingual extension

Key H&P and Imaging Findings

- Sore throat, vocal changes and unilateral pharyngeal swelling with uvular deviation in the setting of known abscess.
- Multiloculated hypodense fluid collection surrounded by an enhancing rim in the peritonsillar area with extension into the sublingual space.

Differential Diagnosis

- Peritonsillar Abscess –
 - Accumulation of pus that extends through the fibrous capsule of the tonsil and superior pharyngeal constrictor muscle. Can extend into the parapharyngeal, masticator, and/or submandibular spaces.
- Intratonsillar Abscess
 - Accumulation of pus within the tonsillar parenchyma (within the capsule).
- Tonsillitis with Phlegmon
 - suppurative cellulitis (no pus) occurring between the tonsil capsule and pharyngeal wall
- Retropharyngeal Abscess
 - Accumulation of pus within the potential space bounded between the Alar fascia, Buccopharyngeal fascia, base of the skull, and superior mediastinum.

Discussion

- Peritonsillar Abscess

- Accumulation of pus that extends through the fibrous capsule of the tonsil and superior pharyngeal constrictor muscle. Can extend into the parapharyngeal, masticator, and/or submandibular spaces.
- Peritonsillar abscess is thought to occur in stepwise progression from
 - Tonsillitis > Pharyngitis/Cellulitis (Phlegmon) > Abscess

- Presentation

- Unilateral severe sore throat, fever, peritonsillar swelling, muffled voice, uvular deviation and salivary pooling.
- Trismus (limited jaw ROM) distinguishes between PTA and pharyngitis/tonsillitis
- PTA is a clinical diagnosis

Discussion

- Microbiology

- Peritonsillar Abscesses are usually polymicrobial with common pathogens including:

- GAS (*S. Pyogenes*), *S. aureus*, *S. anginosus*, *H. Influenza*, respiratory anaerobes (*Fusobacteria*, *Prevotella*, and *Veillonella* species).
- Abscesses can include aerobes and anaerobes if cultured properly

- Complications

- Airway compromise
- Spread into deeper neck spaces (retropharyngeal/"danger space") or vasculature (IJV thrombosis, Lemierre's syndrome, Carotid artery pseudoaneurysm/rupture)
- Sepsis

Discussion

- Treatment
 - PTAs should be drained with needle aspiration or I&D.
 - All patients with peritonsillar infections require antibiotics and should cover GAS, S. Aureus, and respiratory anaerobes. Regimens include:
 - IV Ampicillin, IV Clindamycin, or Oral Amoxicillin-Clavulanate

Work Up and Treatment

- Patient was taken to OR for operative drainage. Purulence was drained and sent for culture and came back positive for gamma streptococcus, alpha streptococcus, and Prevotella Salivae
- Patient was placed on IV Clindamycin
- Repeat CT was performed on admission day 3 showing marginal improvement of PTA. I&D was performed on the same day however no purulence was found despite adequate surgical exploration.



Final Diagnosis

- Multiloculated peritonsillar abscess with extension into the sublingual space

ACR appropriateness Criteria

American College of Radiology
ACR Appropriateness Criteria[®]
Neck Mass/Adenopathy

Variant 1: Nonpulsatile neck mass(es). Not parotid region or thyroid. Initial imaging.

Procedure	Appropriateness Category	Relative Radiation Level
CT neck with IV contrast	Usually Appropriate	☼☼☼
MRI neck without and with IV contrast	Usually Appropriate	○
MRI neck without IV contrast	May Be Appropriate	○
US neck	May Be Appropriate	○
CT neck without IV contrast	May Be Appropriate	☼☼☼
CT neck without and with IV contrast	Usually Not Appropriate	☼☼☼
CTA neck with IV contrast	Usually Not Appropriate	☼☼☼
FDG-PET/CT skull base to mid-thigh	Usually Not Appropriate	☼☼☼☼
FDG-PET/MRI skull base to mid-thigh	Usually Not Appropriate	☼☼☼
MRA neck without and with IV contrast	Usually Not Appropriate	○
Arteriography cervicocerebral	Usually Not Appropriate	☼☼☼
MRA neck without IV contrast	Usually Not Appropriate	○

- Initial scan was in accordance with ACR guidelines for a neck abscess.
- However, it must be noted that the patient underwent at least 3 CT neck w contrast.

Cost of Imaging

- Average cost of CT Neck with contrast at Memorial Hermann
 - Uninsured \$4,450
 - Insured \$931 x3 = (\$2793)

Take Home Points / Teaching points

- A peritonsillar abscess is an accumulation of pus that extends through the capsule of the tonsil and pharyngeal constrictor muscle
- Presents with sore throat, fever, vocal changes, unilateral swelling with uvular deviation
- Imaging will show a hypodense collection with an enhancing rim in the peritonsillar area
- Treatment includes drainage and antibiotics

References

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- Acute Neck Infections - Blair A. Winegar, Wayne S. Kubal
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- <https://www.uptodate.com/contents/peritonsillar-cellulitis-and-abscess>
- <https://radiopaedia.org/articles/intratonsillar-abscess?lang=us>
- <https://www.memorialhermann.org/patients-caregivers/pricing-estimates-and-information/>
- <https://acsearch.acr.org/docs/69504/Narrative/>



Questions?