Peritonsillar Abscess: Hot Potato, Hot Potato

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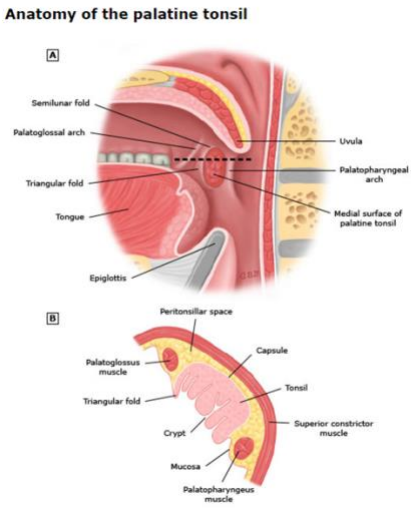
Authors: Payal Patel, MS4; Blake Briggs, MD; Iltifat Husain, MD

Introduction

The most common deep neck infection is a peritonsillar abscess (PTA), which is a collection of purulent material between the capsule of the tonsil and the superior pharyngeal constrictor muscle.[1] It is most frequently encountered in teenagers and young adults. The most common bacterial species associated with a PTA include *Streptococcus pyogenes* (Group A strep), *Streptococcus anginous*, *Staphylococcus aureus*, and various respiratory anaerobes (*Fusobacteria*, *Prevotella*, and *Veillonella* species).[2] Let's quickly review this common pharyngeal complaint, how to not miss it, and when/how to drain it.

Anatomy

The peritonsillar space is composed of loose areolar tissue that coats the tonsils and is bordered by the superior pharyngeal constrictor muscle and the anterior and posterior tonsillar pillars. The palatine tonsils are located between the palatoglossal and palatopharyngeal arches.[1] PTAs occur in the superior pole of the tonsil but may also occur in the midpoint or inferior pole of the tonsil.[3] To the right is a figure depicting the anatomy of the palatine tonsil and the peritonsillar space.[4]

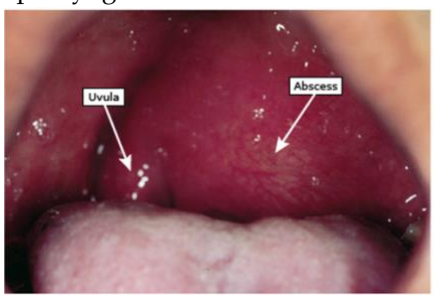


Clinical Presentation

Patients classically present with severe sore throat, fever, and a "hot potato" or muffled voice. An easier way to think of the latter is just any change in voice. Depending on the age of the patient, there may be pooling of saliva or drooling. Trismus occurs only in two-thirds of patients, due to irritation and reflex spasm of the internal pterygoid muscle. This is really helpful, as trismus may help distinguish PTA from severe pharyngitis or tonsillitis.[4,5] There may be neck swelling and pain with ipsilateral ear pain.[1] Physical exam reveals a swollen and/or fluctuant tonsil with deviation of the uvula to the opposite side, as shown below.[6] Sometimes this is not as obvious as the one pictured below and can be quite subtle. Of note, bilateral PTAs are rare, so mild bilateral swelling in the region of the tonsillar pillars is more likely to be reactive from some nonspecific viral syndrome or pharyngitis.

Evaluation

Severe cases of PTA are considered an emergency due to its ability to compromise the airway and to spread to surrounding structures, such as the masseter and pterygoid muscles and the carotid sheath. Ill-appearing patients who are drooling or tripoding likely need surgical drainage in the OR and airway intervention. In these patients you should treat as you would with epiglottitis – call anesthesia, call the ENT surgeon, arrange for urgent OR intubation and intervention. Severe cases of PTA are rare.



Laboratory: Labs are nonspecific and not helpful in making the diagnosis. Gram stain and throat culture can guide appropriate antibiotic therapy, but you won't have this available in the ED.[7]

Imaging: Imaging can help differentiate PTA from peritonsillar cellulitis, deep space infections, or epiglottis. It can especially be useful in pediatric cases where your physical exam can be limited. However, it is not necessary to perform CT imaging if your physical exam shows clear findings consistent with PTA. PTA can be diagnosed clinically and without imaging.

Intraoral or submandibular ultrasonography differentiates PTA from cellulitis with a sensitivity of 89-100% and can be used for needle aspiration.[8] Commonly on ultrasound, a PTA appears as an echo-free cavity with an irregular border, whereas cellulitis appears as a homogenous area with no distinct fluid collection.[9]

Management

Treatment for PTA consists of drainage, antibiotic therapy, and supportive care (hydration and analgesia). There is some debate about patients with "small" abscesses who look clinically well and whether they may only need oral antibiotic therapy. *On the test, this is never the answer.*

Needle aspiration: Intervention of choice compared to I&D because it is less invasive and less painful. In randomized trials, needle aspiration had initial success rates of >90% compared to I&D.[10]
I&D: Typically, more painful than needle aspiration and with more bleeding. Complications include additional procedures for resolution and aspiration of abscess contents.[11]

Video of bedside needle aspiration technique: https://www.youtube.com/watch?v=1CJgLTd35wo

Antibiotic therapy
Oral: amoxicillin-clavulanate or clindamycin
Parenteral[7]: reserve IV antibiotics for those needing admission: toxic appearing patients (temperature >39°C, drooling, and/or respiratory distress) or those who do not respond to empiric treatment: ampicillin/sulbactam or clindamycin + vancomycin OR linezolid

Corticosteroids
While the studies evaluating corticosteroid use for PTA have small sample sizes, there is evidence to show decreased pain and improved oral fluid intake in patients whom steroids are utilized[12]. We recommend a one-time dose of dexamethasone. If you choose not to drain a small abscess, sending the patient home with a 5-day burst of prednisone is reasonable too.

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