

# Peritonsillar abscess

## Case report

A thirty five year old gentleman, otherwise healthy started with sore throat and fever. He was diagnosed suffering from acute tonsillitis and was started on amoxicillin by his doctor. He was making slow recovery and then he suddenly got worse. He had severe sore throat on right side with ipsilateral earache, high grade fever, odynophagia, muffled voice and difficulty in opening mouth.

On examination he had trismus, right tonsil was displaced medially and downwards, uvula was pushed towards left side. WBC count showed marked leukocytosis.



Aspiration was done using wide bore needle which yielded thick pus, sent for culture and sensitivity. The diagnosis of Peritonsillar abscess was confirmed and proper incision and drainage was done. He was started on intravenous amox-calvulonic acid.

The culture yielded mix growth sensitive to the given antibiotics.

The patient gave history of similar illness two years back so tonsillectomy was done eight weeks later and he made uneventful recovery from that procedure.

### Discussion:

Peritonsillar abscess is an infection that begins superficially and progress into the deep soft tissues. The exact mechanism of the initial abscess formation is not known. Abscesses form between the palatine tonsil and its capsule, usually at the superior pole. It is believed that these abscesses most likely arise from an acute episode of tonsillitis which then progresses to involve the soft tissues surrounding this area, which then obstructs the Weber glands, which then swell, and the abscess forms. Sometime abscess can develop denovo. Peritonsillar abscess can occur in anyone aged 10-60 years according to one source, although Peritonsillar abscess is most commonly seen in those aged 20-40

years. The younger children who get Peritonsillar abscess often are immunocompromised. It is usually unilateral however bilateral cases have been reported.

## **Clinical**

### **History**

Symptoms of Peritonsillar abscess usually begin 3-5 days prior to evaluation.

- Sore throat, which may be unilateral
- Dysphagia
- Change in voice
- Headache
- Malaise
- Fever
- Neck pain
- Otagia
- Odynophagia
- Trismus
- Drooling

### **Physical**

Physical findings of Peritonsillar abscess include the following:

- Mild/moderate distress
- Fever
- Tachycardia
- Dehydration
- Drooling, salivation, trouble in handling oral secretion
- Trismus(inability or difficulty in opening the mouth)
- Hot potato/muffled voice (sounds like they are talking with hot food in their mouth)
- Cervical lymphadenitis in the anterior chain
- Asymmetric tonsillar hypertrophy
- Localized fluctuance
- Inferior and medial displacement of the tonsil
- Contralateral deviation of the uvula
- Erythema of the tonsil
- Exudates' on the tonsil

## Causes

Peritonsillar abscesses (PTAs) are usually polymicrobial when the drained pus is cultured. The most common aerobic species found are Streptococcus species (especially Streptococcus pyogenes), and the most common anaerobic species found are Prevotella species and peptostreptococcus species.

## Differential Diagnoses

Peritonsillar cellulitis  
Retropharyngeal abscess  
Mononucleosis  
Pharyngitis  
Tonsillitis  
Carotid aneurysm  
Parapharyngeal abscess  
Lymphoma  
Ludwig angina

## Workup

### Laboratory Studies

- No studies are required for Peritonsillar abscess, although one might consider obtaining CBC and electrolytes if the patient had significant comorbidities.
- Monospot test/heterophile antibody, if unclear of the diagnosis
- Culture of fluid from needle aspiration, if local sensitivities are suggestive of an atypical resistance pattern

### Imaging studies

- Radiography: Lateral soft tissue neck radiographs may help rule out other causes. The anteroposterior (AP) view of the neck may demonstrate distortion of soft tissue.
- CT scan: Head and neck scan with intravenous (IV) contrast is useful if incision and drainage (I&D) is failed, if the patient cannot open his or her mouth, or if the patient is young (<7 y). A hypodense fluid collection with rim enhancement may be seen in the affected tonsil. Foreign bodies such as fish or chicken bones may also be found as an inciting factor.
- Ultrasonography: Intraoral ultrasonography has a sensitivity of 95.2% and specificity of 75.5%. Transcutaneous ultrasonography has a sensitivity of 80% and specificity of 92.8%. This method is cost-effective and fast.

## Procedures

- Needle aspiration: Needle aspiration is used for symptom relief and is the criterion standard for diagnosis. A 16 to 18-gauge needle with a 5-mL syringe should be used to aspirate from the area that is most fluctuant. A needle guard may be used to prevent accidental carotid artery puncture due to the tip of the needle migrating too far posteriorly. Only 0.5 cm of the needle needs to be exposed. If a needle guard is unavailable, a curved clamp can be used to expose a small portion of the needle before inserting it into the area for aspiration. Since the superior pole is the most common place for the abscess to develop, that is usually the first place aspirated if the entire tonsil looks or feels boggy. Aspiration of the middle one third and then the lower one third should then be attempted if pus is not returned from the superior pole.
- Abscess I&D: No.11 blade scalpel may be used to incise a very large PTA, allowing the purulent drainage to flow freely as the abscess cavity decompresses. The patient feels immediate relief from pain.
- Tonsillectomy: Tonsillectomy may be used for recurrent Peritonsillar abscess.

## Emergency Department Care

- ABCs, paying attention to the patient's airway, should be evaluated. If the patient's airway is compromised, he or she needs immediate endotracheal intubation. If this cannot be completed, then a cricothyroidotomy or a tracheotomy may need to be performed.
- These patients are often dehydrated because of their avoidance of food and liquid and will need fluid resuscitation.
- Antipyretics should be administered for elevated temperature, and adequate analgesia should be provided for pain.
- Needle aspiration should be performed to drain the abscess and should provide moderate pain relief. Large abscesses may require incision and drainage, and if the emergency provider is not comfortable with this procedure, an ENT may be consulted.
- Antibiotics for empirical treatment of a streptococcal infection should be administered. Steroids have been shown in one study to decrease the number of in-hospital days.
- Patients can be managed on an outpatient basis unless they show signs of toxicity, sepsis, airway compromise, or complications.

## Further Inpatient Care

- Observation, imaging studies, airway management, and intravenous hydration may be required.
- Other methods of operative management strategy may be indicated and should be performed by an otolaryngologist.
  - Incision and drainage formerly was the treatment of choice; however, great care must be taken in suctioning the purulent material to avoid aspiration, which may lead to pneumonitis and/or pneumonia. When performing incision and drainage be sure to

have a small blade or use a cross clamp to have only a small (approximately 0.5 cm) of the blade exposed while making the incision. This will prevent any exposure of the needle to the carotid artery.

- Emergent tonsillectomy came under criticism because studies of the procedure demonstrated that desired outcomes did not occur as rapidly as supporters had predicted.
  - Costs were increased considerably.
  - Bleeding complications were higher (1-7%).
  - Less invasive and equally effective alternatives are now available in uncomplicated cases.
  - Emergent tonsillectomy is used to treat patients with a history of 3 or more Peritonsillar abscesses (PTAs).
  - Recurrence obviates the need for a second hospitalization for interval tonsillectomy after incision and drainage. Whether recurrence is an indication for tonsillectomy remains unclear.
- To prevent recurrence, interval tonsillectomy may be considered 3-4 weeks after disappearance of edema and symptoms. The value of such a strategy is somewhat controversial. Tonsillectomy reduces the need for admission for recurrences of Peritonsillar abscess (PTA); however, that need is rare since most PTAs now are treated percutaneously and on an outpatient basis.

### **Further outpatient Care**

- If outpatient care is used, the patient can be discharged (after needle aspiration treatment) on an appropriate regimen of antibiotics and pain medications.
- Relative indications for elective tonsillectomy can be identified in almost a third of all patients who present with PTA (eg, recurrent tonsillitis).

### **Complications**

Complications of Peritonsillar abscess may include the following:

- Necrotizing soft tissue infection of the neck and chest wall
- Recurrence
- Aspiration, which may lead to pneumonia or pneumonitis
- Cervical abscess
- Mediastinitis
- Meningitis
- Sepsis
- Cerebral abscess
- Jugular vein thrombosis

- Carotid artery rupture/necrosis
- Carotid artery injury (from I&D or needle aspiration)

### **Prognosis**

- Uncomplicated, treated Peritonsillar abscess has a resolution rate of 94%. In the United States, the recurrence rate is 10%, this rate jumps to 15% internationally.