Peritonsillar Abscess

Background
1. Definition
   - Extension of tonsillar infection beyond the capsule with abscess formation usually above and behind the tonsil
2. Almost always a complication of acute tonsillitis
3. Most common deep head/neck infection (50%)
4. Also known as "Quinsy"
5. Peritonsillar cellulitis
   - Extension of tonsillar infection beyond the capsule without abscess

Pathophysiology
1. Pathology of disease
   - Infection that starts as acute tonsillitis and results in abscess
   - Most often Group A Strep
   - Cultures of abscesses often grow anaerobes (Fusobacterium, Prevotella, Veillonella spp)
   - H. flu, S. aureus occasionally cultured alone
   - Inflamed areas
     - Supratonsillar space of soft palate
     - Just above superior pole of tonsil
     - Surrounding muscles
     - Esp. internal pterygoids
   - Pus collects between fibrous capsule of tonsil and superior pharyngeal constrictor muscle
2. Incidence, prevalence
   - Most commonly seen in adults age 15-30
   - Estimated incidence in USA: 30/100,000 people/year
3. Risk factors
   - Tonsillitis
   - Acute or chronic oropharyngeal infection
   - 15% with antecedent Infectious Mono, seen by monospot test
   - Prior tonsillar infection 36%
   - Smoking
4. Morbidity/ mortality
   - Airway obstruction
   - Septicemia
   - Thrombophlebitis (Lemierre's Syndrome) - spread of infection to carotid sheath which may lead to spread of infection to lungs, mediastinum
   - Aspiration pneumonia subsequent to rupture of abscess into an airway

Diagnosis
1. History
   - Headache, malaise
   - Severe sore throat
     - Worsens, becomes unilateral
   - Dysphagia
"Hot potato" muffled voice  
Trouble fully opening mouth  
Neck pain / swelling  
  • Due to lymphadenopathy  
  • Jugulodigastric area of affected side  
May complain of ear pain (referred)

2. Physical exam  
• Fever, tachycardia, dehydration  
• Throat / pharynx exam  
  • Involved tonsil displaced anterior / medially  
  • Uvula displaced AWAY from abscess side  
  • Tissues around tonsil swollen  
  • Tonsil may be red, enlarged, have exudates  
  • Very painful  
  • Bulging peritonsillar mass  
• Trismus (2/3 of cases)  
  • Due to internal pterygoid muscle inflammation  
May drool (hard to handle secretions)  
Anterior cervical lymphadenopathy  
Bad breath  
If impending airway compromise (very rare)  
  • Anxious, agitated, severe distress

3. Diagnostic testing  
• CBC with differential (SOR:C)  
• Culture / sensitivity of aspirate (SOR:C)  
  • Gives definitive Dx of pathogen

4. Diagnostic imaging  
• Usually no imaging necessary  
• X-ray (SOR:C)  
  • "Perfect lateral" with widened retropharyngeal space >7 mm at C2  
  or 14 mm at C6 suggestive of PTA  
  • Can help Dx epiglottitis  
  • May be technically difficult to perform  
• Intraoral ultrasound (SOR:C)³  
  • Very accurate, inexpensive  
  • Can confirm abscess, exclude cellulitis & retropharyngeal abscess  
  • Can determine volume and position of abscess  
  • Also shows position of carotid artery in relation to abscess  
• CT of neck (SOR:C)  
  • If patient unable to open mouth  
  • Excellent visualization of tissues  
  • Distinguish between abscess and cellulitis  
  • Detect spread of abscess to contiguous spaces in deep neck

Treatment  
1. Depends on age, cooperativeness, condition of patient⁴  
2. Important step is to differentiate cellulitis from abscess  
  • Symptoms are identical to abscess
3. **Conservative treatment**
   - Abscess formation usually 5 days after onset of peritonsillar cellulitis
   - Consider if cellulitis probable
   - May be appropriate for small abscess, no respiratory compromise, no trismus, no septicemia
   - Fluids, analgesia, antibiotics
   - Reassess in 12-24 hours- if not improved in 24 hours consider surgical drainage

4. **Antibiotic treatment**
   - Sufficient by itself to treat cellulitis
   - One small study of 98 patients treated strictly as outpatients with antibiotics alone showed complete resolution of symptoms at 10 days provided that there was improvement within 48-72 hrs (95.9% success rate)\(^5\)\(^\text{SOR:C}\)
   - Must be combined with aspiration / drainage to treat abscess if no initial improvement of symptoms with antibiotics alone (within 48-72 hrs)
   - Studies show that treatment with penicillin alone (clindamycin as alternative for penicillin allergy) is just as effective as broad spectrum antibiotics even when cultures show polymicrobial infection including anaerobes (SOR:C)\(^6\)
   - **Penicillin G**
     - Adults 600 mg (1 million U) IV for 24 hr
     - Peds 12,500-25,000 U/kg IV q6hr
   - **Amp/ sulbactam**
     - Adults 2 g IV q4hr
     - Children 50 mg/ kg IV q6hr
   - **Clindamycin**
     - Adults 600 mg IV q6hr
     - Children 13 mg/ kg IV q8hr
   - **Alternatives:**
     - Penicillin and metronidazole
     - Cefoxitin
     - Cefotaxime
     - Ceftizoxime
     - Imipenem
     - Piperacillin/ tazobactam
   - Continue IV antibiotics until patient afebrile and improved, then switch to oral antibiotics
     - Amoxicillin/clavulanate (or clindamycin) x14d

5. **Needle aspiration**
   - Prepare equipment
     - 18-19 G needle + 10cc syringe
     - Cut plastic needle cover in half
     - Slide proximal (open) 1/2 of cover back over needle
     - Tape cover to syringe
     - Functions as a "depth gauge"
     - Prevents deep tissue penetration
   - Place patient in Trendelenburg position
Anesthetize area
- Cetacaine spray or other topical anesthetic first
- Follow with 2-4 cc lidocaine + epi
  - Small study suggests needle infiltration with anesthetic superior to spray alone

Aspirate abscess
- Point of maximal bulging
- Usually near top of tonsil, lateral to uvula
  - About 10-11 o'clock position
- Aspirate as much pus as possible
  - May be up to 20cc
  - If no pus, can try again 1 cm lower down
  - Inability to get pus may indicate peritonsillar cellulitis only
  - Does NOT fully R/O abscess

6. Surgical drainage
   - Indications
     - Conservative tx failure
     - Large abscesses
     - Airway compromise
     - Septicemia
     - Severe trismus
     - Young, uncooperative patients
   - Requires experienced practitioner
   - When surgical drainage indicated, studies suggest no significant difference in outcome between needle aspiration, incision and drainage, and Quinsy Tonsillectomy (all with success rate >90%) (SOR:C)\(^6-8\)
   - Formal incision/ exploration
     - Associated with increased pain compared with needle aspiration, but possibly slightly lower failure rate
   - Quinsy tonsillectomy
     - Recommended by some for recurrent pharyngitis (SOR:C)\(^8\)

7. Steroids
   - Randomized trial suggests that parenteral steroids in conjunction with abscess drainage may speed resolution of fever and resumption of swallowing (SOR:C)\(^6,7,8,9\)

Follow Up
1. Return to office
   - 24 hr if conservative treatment with antibiotics only
   - Within 48 hr after needle aspiration if
     - No improvement or worsening of symptoms
     - Inability to swallow
     - Worsening trismus
     - Worsening pain
2. Refer to specialist
   - More invasive drainage required beyond level of training or comfort level of provider
   - Lack of facilities to adequately protect airway during drainage
3. Admit to hospital
   - If toxic, severe trismus, airway compromise, dehydration
     - IV antibiotics
     - Surgical drainage may be required

4. Discharge home
   - Patient must be
     - Non-toxic
     - Able to take meds/handle secretions
   - Discharge with antibiotic coverage
   - Return if worse pain, trismus, unable to swallow
   - Patient likely to need elective tonsillectomy

Prognosis
1. Excellent prognosis for full recovery without complications, especially with initiation of therapy within 48-72 hr of symptom onset

Prevention
1. Primary prevention
   - See Prevention of GAS infection
2. Secondary infection
   - Quinsy tonsillectomy - consider for recurrent pharyngitis
   - Studies show immediate tonsillectomy to be as safe as delayed

Patient Education

References