Subacute Adenitis

Ann M. Loeffler, MD
Lymphadenitis

- Swelling and hyperplasia of sinusoidal lining cells
- Infiltration of leukocytes
- +/- abscess formation
- Granulomatous or non-granulomatous
Pyogenic adenitis

- Typically:
  - Acute onset
  - Neck lymph nodes (inguinal or axillary)
  - Usually solitary node
  - Over days, becomes red, warm, and tender
Pyogenic adenitis

- Typically:
  - Worsens in days
  - Associated with systemic symptoms
  - Pre-school aged children
Pyogenic adenitis

- *Staph aureus* and Group A Strep are most common pathogens (GBS in young infants)
- Early treatment may avoid surgical drainage
- Partially treated pyogenic adenitis can mimic indolent adenitis
Indolent adenitis

• Rare causes:
  - Sporothrix
  - Tularemia
  - BCG adenitis
  - Bubonic plague
  - Toxoplasmosis
Venereal inguinal buboes

- Chancroid
- Lymphogranuloma venereum (LGV)
- Primary genital herpes
- Syphilis
“The big three”

- Cat Scratch Disease (CSD)
  - *Bartonella henselae*
- Atypical mycobacteria
- *M. tuberculosis*
Cat Scratch Disease

• Follows animal contact
  - Usually a kitten
  - With fleas
  - Who spends time outdoors
  - Born in the spring estrus
Cat Scratch Disease

- Most common in children 2 - 14 yrs
- Inoculation papule or pustule may be found
Cat Scratch Disease

- Regional lymphadenopathy
  - Axillary
  - Cervical / Submandibular
  - Preauricular
  - Epitrochlear
  - Inguinal
Cat Scratch Disease

- 50% more than one node
- Multiple sites 20%
CSD Adenopathy

- Follow cat scratch by several weeks
- Nodes gradually enlarge, become tender
- Overlying skin is initially normal, becomes dusky red and indurated
CSD Adenopathy

- 10 - 40% suppurate
- Occasional sinus tract formation
- Nodes enlarge for 4 - 6 weeks
- Eventually spontaneously resolve
CSD Adenopathy

• Diagnosis
  - Exposure to kitten
  - Scratch slow to heal
  - Inoculation papule or pustule
  - Negative Tuberculin Skin Test (TST)
CSD Adenopathy

- Diagnosis
  - Failure to respond to antibiotics
  - Aspiration cultures, AFB studies negative
  - Pathology – caseating granulomata
  - Serologies: *B. henselae* and *B. quintana*
CSD Treatment

- Supportive care
  - Needle aspiration for very tender node
  - Excisional biopsy if other diagnosis strongly considered
    - Malignancy
    - Nontuberculous mycobacteria
  - Medical management
    - Azithromycin with or without rifampin (not proven to help)
CSD - other manifestations

- Perinaud’s oculoglandular syndrome
- Osteomyelitis
- F/UO - Hepatic or splenic granulomata
- Skin lesions
- Eye disease
- Encephalopathy
Mycobacterial scrofula

- Nontuberculous mycobacteria (NTM)
  - MAC
  - *M. scrofulaceum*
  - *M. kansasii*
  - Others
- *M. tuberculosis* complex (TB)
  - *M. tb* & *M. bovis*
# Mycobacterial scrofula

<table>
<thead>
<tr>
<th></th>
<th>Nontuberculous</th>
<th>TB</th>
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</thead>
<tbody>
<tr>
<td>TST reaction</td>
<td>Modest</td>
<td>Larger</td>
</tr>
<tr>
<td>TB exposure</td>
<td>Absent</td>
<td>Present</td>
</tr>
<tr>
<td>Race / ethnicity</td>
<td>Any</td>
<td>Minority</td>
</tr>
<tr>
<td>Age</td>
<td>1 – 4 years</td>
<td>Typically older</td>
</tr>
<tr>
<td>Location</td>
<td>Submandibular</td>
<td>Cervical / other</td>
</tr>
<tr>
<td>Response to Tx</td>
<td>Scant</td>
<td>Good in kids</td>
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</tbody>
</table>
PPD Distribution
All Culture Results

#
0-9 mm 10-14 mm 15-19 mm 20-24 mm 25 mm+

M. Tb
NTM
Cult neg
Mycobacterial scrofula

- Gradually enlarging nodes (not the normal modestly enlarged, not changing lymph nodes)
- Nodes suppurate / become fluctuant
- Skin looks dusky / pink - purplish
- Skin thins and flakes
- Node adheres to the overlying skin
- Draining sinus sometimes follows
Mycobacterial scrofula

• Treatment
  - If suspected NTM, ask most experienced pediatric neck surgeon to resect the entire node
  - If TB suspect seek a source case with an abnormal radiograph. If cultures from the source case are imminent - forgo surgical intervention
Mycobacterial scrofula

- If the diagnosis is uncertain, the node can usually be aspirated without creation of a sinus tract
- Avoid incision / drainage of a suspected scrofula
- AFB smears and cultures frequently negative (NTM > TB)
Mycobacterial scrofula

- If excisional surgery IMPOSSIBLE (facial nerve risk)
  - Consider empiric medical therapy
    - Four drug TB therapy
    - Three drug NTM therapy (clarithromycin, rifampin or rifabutin, ethambutol)
    - Sometimes use 5 drugs to cover both
    - Rapid improvement on TB therapy +/- clarithromycin suggests TB
Start of therapy

Photo courtesy of Robert G. Allison, MD.
NTM Case

End of therapy

Photo courtesy of Robert G. Allison, MD.
Mycobacterial scrofula

- Treatment regimens
  - TB treatment by directly observed therapy
    - INH, rifampin, pyrazinamide and ethambutol 5 - 7 days per week for 2 months
    - Followed by INH and rifampin twice weekly for 4 more months
    - M. bovis inherently resistant to PZA - minimum 9 months
Mycobacterial scrofula

• Treatment regimens
  - NTM
    • Clarithromycin or azithromycin, rifampin or rifabutin, ethambutol daily for 3 months
    • Clarithromycin daily for three more months
    • Monitor hearing and vision
Summary

• Many infectious and non-infections etiologies cause lymphadenitis
• Pyogenic, CSD and mycobacterial disease are most common causes of indolent adenitis
Summary

• Diagnosis is made on clinical / demographic grounds with aid of TST and CSD titers
• Treatment is primarily surgical for atypical mycobacteria
• Treatment is primarily medical for TB
Summary

• Medical treatment is sometimes used for NTM scrofula which is inoperable
• CSD nodes usually resolve without cosmetic sequelae
  - Serial drainages may be needed
  - Medical management rarely indicated