GOOD MORNING

BEAUTIFUL
HPI:

- C/o 5-days of left neck pain with neck/cheek swelling for the past 3 days. Fevers off and on for 4 days, Tmax 103. C/o pain when opening mouth and when moving neck.
- ROS: +nausea, +dec appetite, +dec UOP, +fatigue
- PMHx: none
- Meds: none
- BHx: Twin, ex 32 wga, no NICU stay
- Shots: UTD
What is your differential diagnosis?
Physical Exam

• VS: T 101.5, HR 123, RR 28, BP 101/58, Pox 100% on RA, Wt 19kg
• GEN: Lying on right side, awake and alert
• HEENT: +trismus, TM clear, no rhinorrhea
• NECK: Left neck swelling extending to left cheek and parotid area. +TTP, +pain with neck movement, +erythema/warmth
• SKIN: no rashes
Physical Exam

• CV: RRR, no murmur, 2+ pulses in all 4 extremities, CR <3 seconds.
• RESP: CTA bilaterally, no increased WOB
• ABD: soft, non-distended, non-tender with normoactive bowel sounds
• EXT: warm and well perfuse, no cyanosis or edema
• Neuro: no focal deficits on exam
What would you like to order?
**LABS**

- **S84 B6 L2 M6 E2**

- **ESR:** 125 (0-20)
- **CRP:** 49 (0-1)
- **Amylase:** 850 (25-180)
- **LDH:** 269 (120-480)
- **Uric acid:** 4.5 (2-7)
- **Mono spot:** +
- **RVP:** negative

- **Ca 9.3**
- **AST 64 / ALT 30**

- **18 10 279**
- **134 99 21 < 79**
- **4.0 19 0.3**
Diagnosis?
Suppurative Parotitis and Lymphadenitis
Parotitis
Parotitis

• Inflammation of the parotid gland(s)
  • Parotid gland functions to secrete saliva into the mouth to facilitate mastication and swallowing, and to begin digestion.

• Can be acute or chronic, unilateral or bilateral

• Can be seen in all age groups
  • More common in neonates and adults than children
What are some predisposing factors?
Predisposing Factors

- Dental infections
- Dehydration
- Malnutrition
  - Bulemia
- Immunosuppression
- Medications that suppress salivary flow
  - Antihistamines, diuretics or anticholinergics
- Transient bacteremia in neonates
Clinical Presentation

- Sudden onset of indurated, warm, erythematous swelling of pre- and post-auricular swelling
- Intense local pain and tenderness
- Viral causes may have prodrome of mild fevers, fatigue, malaise
- Can be associated with high fevers, chills, and toxicity
- Purulence may be seen from the gland
- Later manifestations
  - Massive neck swelling, respiratory obstruction
BOARD SPEC:

Differentiate among the various causes of Parotitis
Etiology of Parotitis

- Suppurative/Bacterial Parotitis
- Viral Parotitis
- Systemic illnesses
- Tumors
- Anatomic/Mechanical causes
- Juvenile Recurrent Parotitis
# Bacterial Parotitis

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Pathogen</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most Common</td>
<td><em>Staphylococcus aureus</em></td>
<td>Associated with suppurative parotitis</td>
</tr>
<tr>
<td></td>
<td>Alpha- hemolytic streptococcus</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Strep. pyogenes</em></td>
<td></td>
</tr>
<tr>
<td>Less Common</td>
<td><em>Haemophilus influenzae</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>E.coli</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Strep. pneumoniae</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Klebsiella pneumonia</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Pseudomonas aeruginosa</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Pseudomonas pseudomallei</em></td>
<td>Children in Southeast Asia</td>
</tr>
<tr>
<td></td>
<td><em>Eikenella corrodens</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Peptostreptococcus sp.</td>
<td>Associated with dental infections</td>
</tr>
<tr>
<td></td>
<td>Prevotella sp.</td>
<td>Associated with dental infections</td>
</tr>
<tr>
<td></td>
<td>Fusobacterium sp.</td>
<td>Associated with dental infections</td>
</tr>
<tr>
<td></td>
<td>Bacteroides sp.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Actinomyces</td>
<td>Associated with dental caries</td>
</tr>
<tr>
<td>Rare</td>
<td>Atypical mycobacteria</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Salmonella sp.</em></td>
<td>HIV population</td>
</tr>
<tr>
<td></td>
<td><em>Mycobacterium tuberculosis</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Bartonella henselae</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Treponema pallidum</em></td>
<td></td>
</tr>
</tbody>
</table>
# Non-Bacterial Parotitis

<table>
<thead>
<tr>
<th>Etiology</th>
<th>Pathogen</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viruses</td>
<td>Mumps</td>
<td>The most common viral cause worldwide</td>
</tr>
<tr>
<td></td>
<td>HIV</td>
<td>Chronic cystic enlargement</td>
</tr>
<tr>
<td></td>
<td>Enteroviruses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EBV</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Influenza</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Parainfluenza</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CMV</td>
<td>Acute parotitis in HIV</td>
</tr>
<tr>
<td></td>
<td>Adenovirus</td>
<td>Acute parotitis in HIV</td>
</tr>
<tr>
<td></td>
<td>Lymphocytic choriomeningitis</td>
<td></td>
</tr>
<tr>
<td>Fungi</td>
<td>Candida albicans</td>
<td>Hospitalized, chronically ill patients</td>
</tr>
<tr>
<td>Systemic illnesses</td>
<td>Collagen vascular disease</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cystic fibrosis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Autoimmune disease: Sjögren syndrome</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diabetes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sarcoidosis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Uremia</td>
<td></td>
</tr>
<tr>
<td>Tumors</td>
<td>Mixed tumors</td>
<td>Benign, most common</td>
</tr>
<tr>
<td></td>
<td>Mucoepidermoid carcinoma</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adenoid cystic carcinoma</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Malignant mixed tumors</td>
<td></td>
</tr>
<tr>
<td>Mechanical</td>
<td>Sialolithiasis</td>
<td></td>
</tr>
</tbody>
</table>
Autoimmune causes of Parotitis

• Sjogren’s syndrome
  • Autoimmune condition in adults associated with dryness of the eyes and mouth
  • Can affect small children, presenting as isolated recurrent bilateral parotitis

• Sarcoidosis
  • Lungs, skin and lymph nodes are most affected but can involve salivary glands in 10% of cases
  • Classic presentation of bilateral firm, smooth, nontender parotid enlargement
Autoimmune causes of Parotitis

What syndrome is associated with sarcoidosis of parotid gland, fevers, anterior uveitis, and facial nerve palsy?

Heerfordt-Waldenstrom Syndrome
Autoimmune causes of Parotitis

**Have high suspicion for autoimmune disorder in child with recurrent parotitis, especially with bilateral involvement**
Recurrent Juvenile Parotitis

• Non obstructive inflammation of the parotid gland
• Cause is unknown
• Clinical features: Fever and painful swelling of parotid (s) every 3-4 months
• Age: 3-6 years old
• More common in boys
Diagnosis

• **Clinical diagnosis
• CBC shows leukocytosis
• Elevated ESR and CRP
• Elevated amylase
  • Increased in 90% of parotitis cases; helps differentiate from lymphadenitis
• Imaging with CT scan or ultrasound
• Antibody titers, viral panel
Treatment

• Suppurative Parotitis
  • IV hydration
  • Parental antimicrobials

• Supportive care
  • Analgesics
  • Antipyretics
  • Warm compresses
  • Massage
  • Sialogogues
## Treatment

<table>
<thead>
<tr>
<th>Clinical condition</th>
<th>First Line Therapy</th>
<th>Alternative treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community acquired parotitis</td>
<td>Nafcillin OR cefazolin</td>
<td>Vancomycin OR clindamycin*</td>
</tr>
<tr>
<td>Health care associated parotitis</td>
<td>Cefoxitin OR ertapenem OR ampicillin/sulbactam</td>
<td>Clindamycin + levofloxacin OR piperacillin-tazobactam</td>
</tr>
<tr>
<td>Parotitis associated with dental infections</td>
<td>Clindamycin OR flagyl + ceftriaxone</td>
<td>Piperacillin-tazobactam</td>
</tr>
<tr>
<td>History of recurrent MRSA infections</td>
<td>Vancomycin</td>
<td>Linezolid</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Daptomycin</td>
</tr>
</tbody>
</table>
BOARD SPEC:

Formulate a differential for preauricular swelling
DDx for preauricular swelling

- **Infectious causes**
  - Parotitis / Parotid abscess
  - Lymphadenitis
  - Dental abscess

- **Sialolithiasis**

- **Tumor/malignancy**
  - Aneurismal bone cyst
  - Central giant cell granulomas
  - Cavernous hemangiomas
  - Lymphangiomas
  - Lymphoma

- **Systemic/autoimmune**
  - Sjogren’s
  - Sarcoidosis

- **Pneumoparotid**

- **Medications causing parotid swelling**
  - Isoproterenol, heavy metals, sulfisoxazole, phenothiazines, thiouricil, iodides, pheylbutazone
BOARD SPEC:

Recognize clinical findings associated with cold panniculitis
Cold Panniculitis

• AKA “popsicle panniculitis”
  • Panniculitis = inflammation of the subcutaneous fat

• Occurs most often in very young children

• Presents with erythematous nodules and plaques at the site of cold injury, mostly commonly involving the cheek

• Spontaneous resolution within a few weeks
Cold Panniculitis
Cold Panniculitis
Back to our patient...
The End!

Noon conference: Dr. Rossi
Respiratory Failure
Across the street