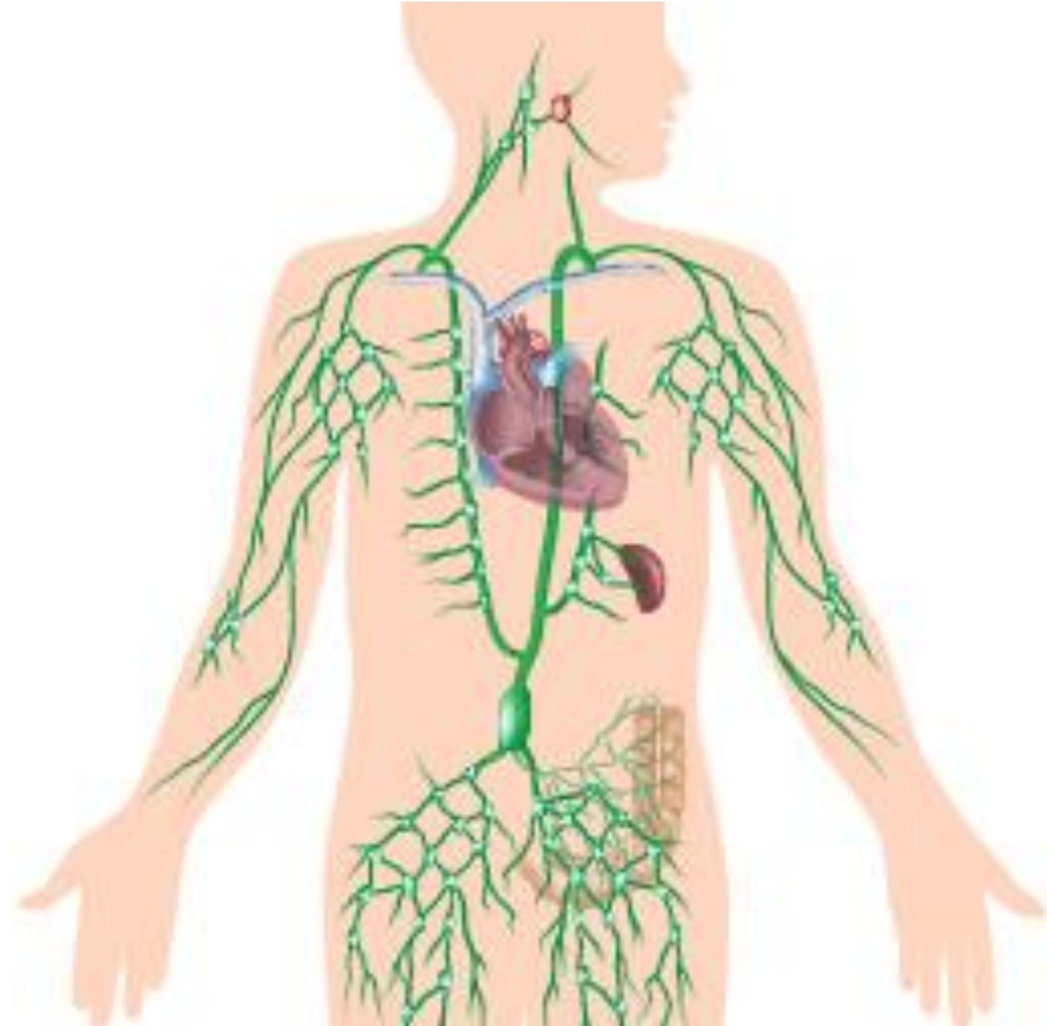
Lymphadenopathy

Learning Objectives

- Define lymphadenopathy
- Common presentations of lymphadenopathy
- Differential diagnosis according to presentation, symptoms and age
- Discuss treatment of common etiologies of lymphadenopathy

Lymphadenopathy – What is it?

- Abnormality in size and *consistency* of lymph nodes
- Lymphaden<u>itis</u> is when it occurs with an infectious or inflammatory process
- <u>KEY FACT</u>: Lymph nodes are normally not palpable in newborns



Presentation

- Acutely infectious lymph nodes are **tender**, potentially with erythema or warmth
  - Chronic infection may not have these signs or symptoms
- Tumor-bearing nodes are firm, nontender, and may be matted or fixed
- Generalized adenopathy is caused by systemic disease and will normally have abnormal findings in another system
- Regional adenopathy is frequently a result of infection in the involved node and/or its drainage

Infectious

- Most likely in children younger than 5
- Acute enlargement is likely to be viral or bacterial
- Fevers, rash, generalized pain, joint pain/swelling
- Cervical lymphadenopathy – look for sore throat, congestion, red eyes with discharge, oral ulcers, dental caries, and gingival swelling

Unilateral

- Usually **bacterial**
- S. aureus and GAS
  - 40 - 90% of cases
  - Normally in children < 5 yo
  - Recent hx of URI or impetigo
  - Nodes are tender, warm, erythematous, non-discrete, poorly mobile
  - Fever, tachycardia, malaise but nontoxic
  - Nodes can become suppurative and fluctuant

Bilateral

- Often benign self limiting **viral** URI (entero, adeno, influenza)
  - History of sick contact or current/recent symptoms
    - Sore throat, rhinorrhea, nasal congestion,
  - Nodes are small, rubbery, mobile and discrete, minimally tender w/o erythema or warmth
- GAS pharyngitis is alternate cause
  - >3 years of age w/ abrupt onset
  - Sore throat, scarlantiform rash, palatal petechiae, tonsillar enlargement w/ or w/o exudate
  - Self resolving

Diagnosis and Treatment

Unilateral

- Assess for periodontal disease
- If draining – culture the fluid
- ESR and CRP
- Augmentin (MSSA and GAS); Clindamycin (MRSA)
  - Same if IV; in addition can use Ancef

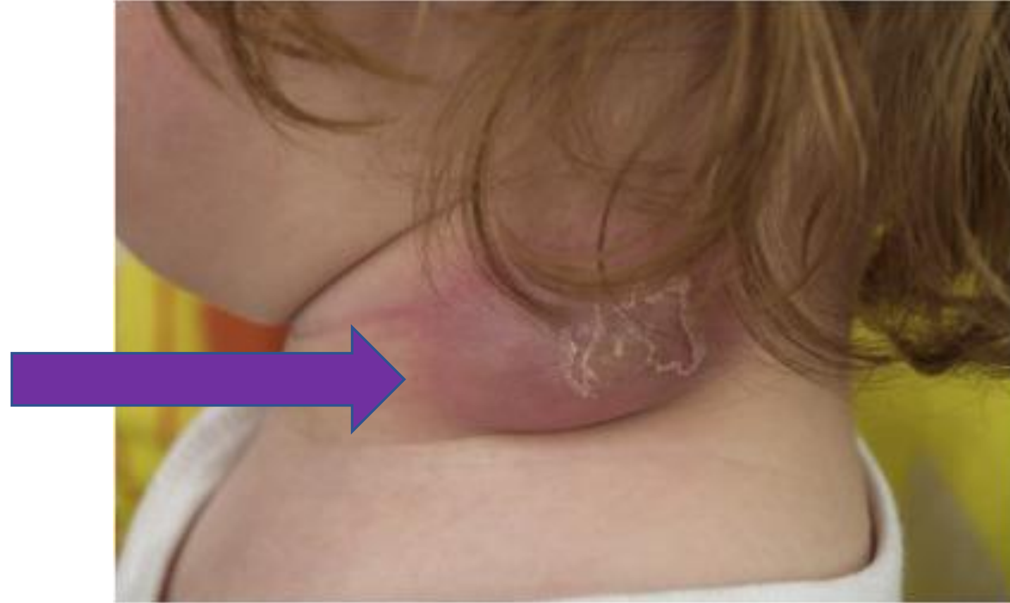
Bilateral

- EBV testing; rapid Strep testing
- If ill-appearing
  - CBC, ESR, CMP, BCx
    - Gives information about systemic involvement
- Bacterial – Augmentin (MSSA and GAS); Clindamycin (MRSA)
  - Same if IV; in addition can use Ancef
- Viral treatments – supportive care; symptomatic treatment

Subacute/Chronic

Unilateral

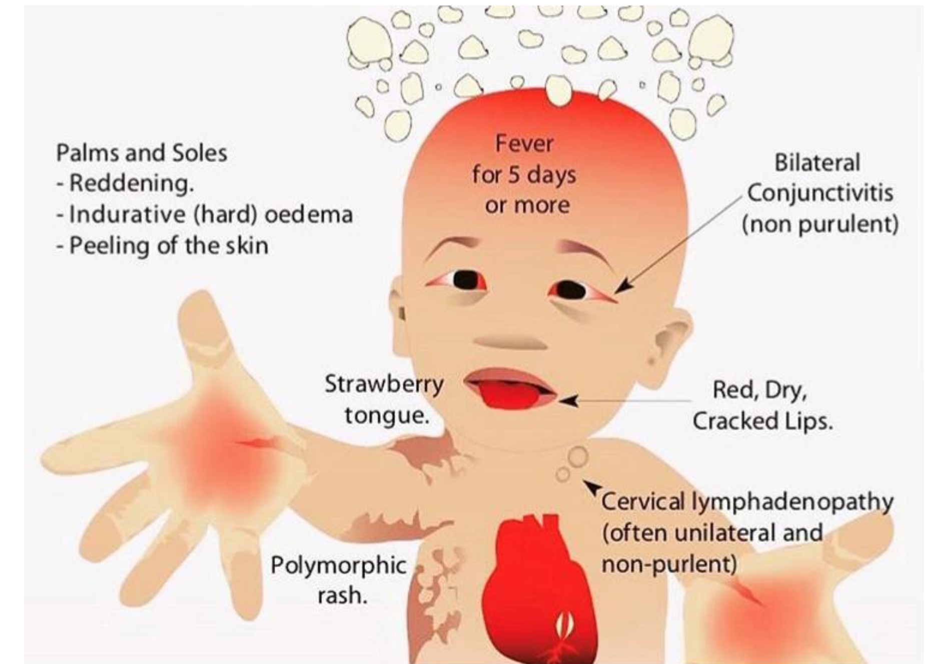
- Nontuberculous mycobacteria (NTM, Scrofula)
  - Firm, nontender; grow over several weeks
  - Overlying skin can become **violaceous** and thin
  - Draining sinus tract
- Bartonella
  - Cat scratch (kitten) within 2 months
  - Node may drain at site of inoculation
    - Warm, tender, slightly erythematous



Bilateral

- EBV or CMV (mono or mono-like)
  - May have fever, exudative pharyngitis, lymphadenopathy, hepatosplenomegaly

Non-Infectious



- Neoplasm
  - Leukemia or lymphoma
  - Progressively non-tender, cervical/generalized LAD
  - No evidence of HIV, EBV, or CMV
  - Constitutional symptoms
- Kawasaki Disease
  - Young child; unilateral
  - Associated with ≥5 days fever, rash, nonexudative conjunctivitis, mucositis, and swelling of the hands and feet
- Other
  - Branchial cleft cyst – anterior to SCM; any age, most common in school aged children
  - Cystic hygroma – painless soft, superior to clavicle, posterior to SCM
    - May increase in size w/ URI
    - Transillumination and compressibility help distinguish

Diagnosis and Treatment

Unilateral

- CBC, ESR, CRP, CMP, UA, LDH
- PPD
- Consider excisional biopsy if suspicion of malignancy
- NTM; **excisional biopsy** for definitive diagnosis
  - FNA can cause sinus tract
  - Macrolide w/ ethambutol +/- rifampin
- Bartonella suspected – azithromycin, rifampin, or Bactrim

Bilateral

- CBC, ESR, CRP, CMP, UA
- PPD, EBV, CMV, HIV
- Typically symptomatic treatment, unless HIV

References

Pediatric cervical lymphadenopathy. Michael S. Weinstock, Neha A. Patel and Lee P. Smith. Pediatrics in Review. September 2018, 39 (9) 433-443

Lymphadenopathy. Shashi Sahai. Pediatrics in Review. May 2013, 5 (34) 216 – 227

Lymphadenopathy. Richard Tower, Bruce Camitta. Nelsons Textbook of Pediatrics. Elselvier. 2020

Cervical Lymphadenitis in Children: Etiology and clinical manifestations. Mary Torchia. February 2018. UpToDate.

Group A streptococcal tonsillopharyngitis in children and adolescents: Clinical features and diagnosis. Mary Torchia. February 2019. UpToDate.

Cervical lymphadenitis in children: Diagnostic approach and initial management. Mary Torchia. April 2018. UpToDate.

Nontuberculous mycobacterial lymphadenitis in children. Mary Torchia. April 2019. UpToDate.