Approach to cervical lymphadenopathy:

A case-based scenario

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May, 2024

Case introduction

- A 6-year-old boy was brought to your clinic with unilateral cervical LAP since 10 days earlier.

- The LN is 1.5*1.5 cm in the submandibular area
- LN features: soft, non-tender, mobile
- General PE is normal

Definition

Lymphadenopathy refers to enlargement of the lymph node.

- **Size:**

  Larger than 1cm in cervical, axillary

  1.5 cm in inguinal

  0.5 cm in epitrochlear area

  any size in supraclavicular areas

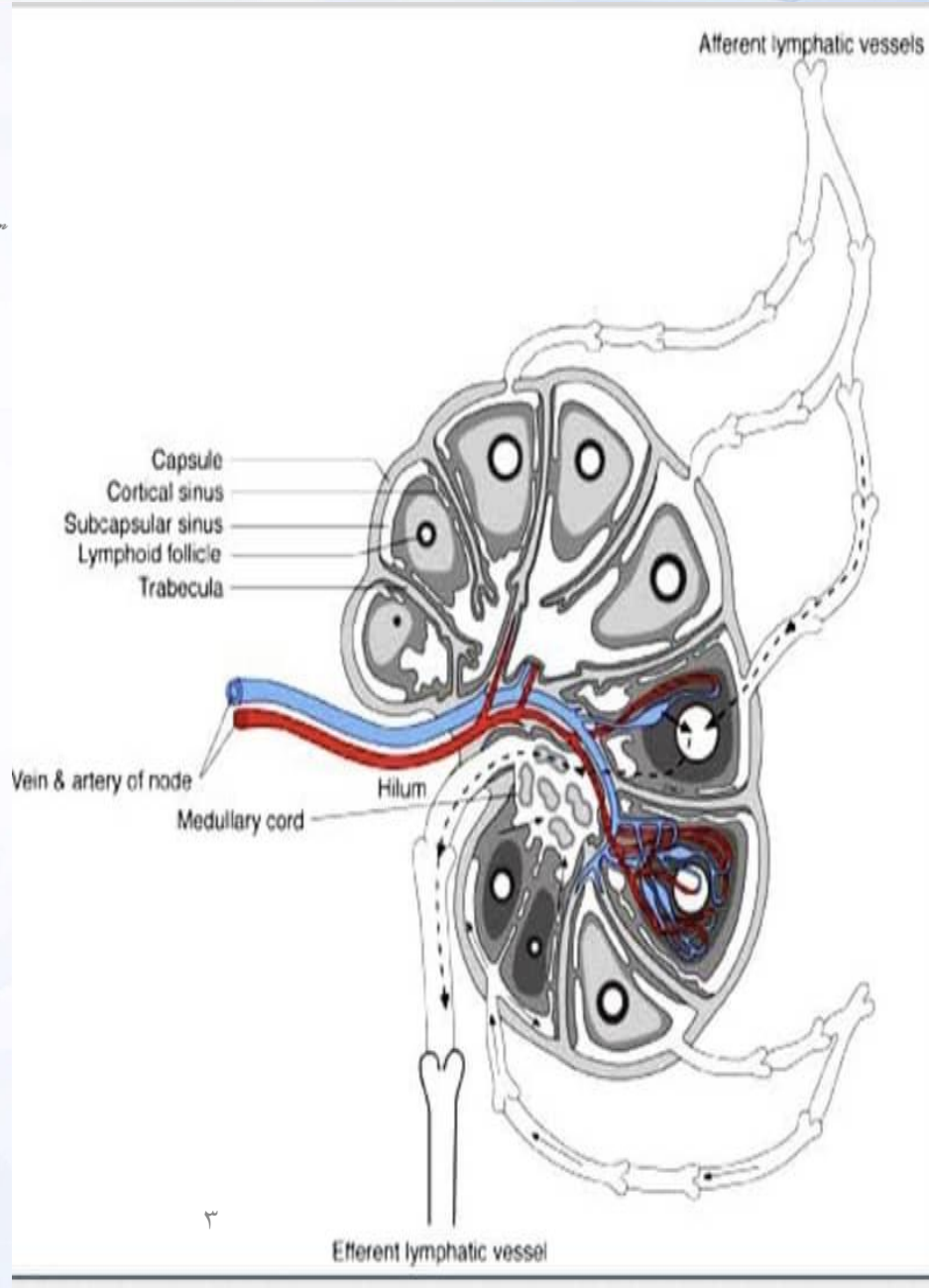
- **Duration:**

  Acute LAP if less than 2 weeks duration

  Subacute if 2-6 weeks duration

  Chronic if not resolved by 6 weeks

- **Localized vs generalized**



Differential Dx of cervical LAP

Table III. Common congenital neck masses.

Neck mass	Characteristics	Common age of presentation
Thyroglossal duct cysts	• Most common congenital neck mass • Moves up with tongue protrusion	2–10 years
Branchial cleft anomalies	• Second most common congenital neck mass • Includes cysts, sinuses and fistulas • Manifests as presence of pit, dimple, sinus or mass along anterior margin of sternocleidomastoid muscle	Fistulas: infancy Cysts: older children > 10 years but can present at any age
Cystic hygroma	• Soft, painless, fluctuant masses with violaceous appearance • Transilluminable	Birth to 2 years
Dermoid cysts	• Midline lesions that do not move up on swallowing or tongue protrusion • Rubbery consistency, attached to overlying skin	Aged < 5 years
Congenital muscular torticollis	• Firm, fibrous mass within belly of sternocleidomastoid muscle • Causes torticollis and positional plagiocephaly	Birth to first few weeks of life
Infantile haemangioma	• Flat purplish lesions at birth • Enlarge in first year of life – soft, compressible, red or purple masses, not transilluminable • Spontaneous involution thereafter	Birth

Causes of generalized LAP

- **Infections: viral bacterial spirochetal protozoal fungal**
- **Malignancy**
- **Lymphoproliferative disorders**
- **Immunologic**
- **Endocrine**
- **Drugs**
- **Miscellaneous**

Clinical approach

Important aspects of History:

- **Characteristics of the lymph node enlargement.**
- **Associated symptoms(local or systemic)**
- **potential exposures**
- **Past medical history.**

Physical examination

- **General appearance, vital signs, growth parameters.**
- **Head & neck**
- **chest**
- **Abdomen**
- **Skin**
- **Lymph nodes**

LN features

- Location
- Size
- Consistency
- Fixation
- Tenderness

Clinical features to differentiate benign from malignant lymphadenopathy

Features	Malignant	Benign
Size	> 2cm	< 2 cm (<1 cm)
Consistency	Hard, firm or rubbery	Soft
Duration	> 2 weeks	< 2 weeks
Mobility	Fixed, matted	Mobile
Location	Supraclavicular, epitrochlear, generalized	Inguinal, submandibular
Tenderness	Usually non-tender	Usually tender

Q1: Early LN biopsy is mandatory except?

1- high ESR
2- mediastinal widening in chest X-ray
3- Pancytopenia in CBC
4- night sweating

Answer: 1 is correct

Clinical features worrisome for malignancy or granulomatous disease in children with peripheral lymphadenopathy

- Systemic symptoms

  (fever >1 week, night sweats, weight loss [>10% of body weight])
- Supraclavicular (lower cervical) nodes
- Generalized lymphadenopathy
- Fixed non-tender nodes in the absence of other symptoms; matted nodes
- Nontender lymph nodes >1 cm with onset in the neonatal period

Clinical features worrisome for malignancy or granulomatous disease in children with peripheral lymphadenopathy

- Nontender lymph nodes ≥2 cm in diameter that increase in size from baseline or do not respond to antibiotic therapy
- Abnormal Chest X-ray (particularly mediastinal mass or hilar adenopathy)
- Abnormal CBC (lymphoblasts, cytopenia in more than 1 cell line)
- Absence of symptoms in the ear, nose, and throat regions
- Persistently elevated ESR/CRP or rising ESR/CRP despite antibiotic therapy

No symptoms or signs of infection, <2 cm in diameter

- No worrisome features
- No obvious cause based on the history and examination

Q2: What is the next step?

1- A 2-week trial of antibiotic

2- CBC, ESR, CRP, LDH

3- LN. biopsy

4- Observation for 2 weeks

Answer: 4 is correct

- For children with cervical lymphadenopathy <2 cm
- no findings of infection within or distal to the node
- no worrisome features
- no obvious cause based on the history and examination

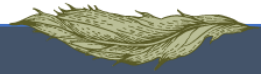
➢ we observe for 10 to 14 days

The patient was observed for 2 weeks, but the LN does not regress in size.

Q3: What will you recommend next?

1- CBC, ESR, CRP
2- Serology for EBV, CMV, HIV
3- A trial of empiric antibiotic therapy
4- All of the above

Answer: 4 is correct



- If the lymph node does not regress or enlarges, then a course of antibiotic therapy may be indicated.
- We also obtain CBC, ESR/CRP, and serology for EBV, CMV, and HIV
- evaluate for Kawasaki disease and other uncommon causes of cervical lymphadenopathy as indicated by the history and examination.

Q4: What will be the choice of antibiotic?

1- Cefixime
2- Azithromycin
3- Clindamycin
4- Cephalexin

Answer: 3 is correct

Empiric antibiotic therapy

- Coverage for common pathogens such as group A *Streptococcus* and *S. aureus*
  - High CA-MRSA prevalence: Clindamycin
  - Low CA-MRSA prevalence – First-generation cephalosporin (eg, cephalexin) or amoxicillin-clavulanate
  - For patients with exposure to cats or kittens, we also include coverage for *B. henselae* (eg, azithromycin) in the initial regimen

If the patient's systemic symptoms (eg. fever) do not improve within 72 hours or the lymph node increases in size (at any point during treatment):

- For patients initially treated with a first-generation cephalosporin or amoxicillin-clavulanate, we switch to clindamycin to provide coverage for CA-MRSA

- For patients with exposure to cats or kittens, we add coverage for *B. henselae* (eg, azithromycin) if it was not included in the initial regimen

- For patients initially treated with clindamycin, we may add coverage for NTM if there are clinical features suggestive of NTM infection and contraindications to surgical excision (if the suspicion for NTM is high, excisional biopsy is more appropriate)

Case scenario (continued)

- The laboratory tests are within the normal range
- Clindamycin was prescribed for 2 weeks
- The next visit revealed a non-tender, mobile, soft, 1.5*1 cm LN in the submandibular area
- General PE is normal
- No worrisome features

Q5: What will you do next?

1- add azithromycin to the antibiotic regimen

2- Excisional biopsy

3- Continue observation

4- Both 2 & 3 can be advised

Answer: 4 is correct

- We obtain a biopsy after four weeks if the diagnosis remains uncertain and the lymph node has not regressed in size.
- However, continued observation may be reasonable if there are no worrisome features.

For children with cervical lymphadenopathy ≥2 cm no findings of infection, and no worrisome features

- Initial Laboratory investigation:
- CBC, ESR, CRP
- Chest X-ray
- If features suggestive of malignancy:
- Early biopsy

LN≥ 2 cm, no sign of infection, no worrisome features; normal initial evaluation

Q6: what will you do next?

1- tuberculin skin test
2- Empiric antibiotic therapy for 2 weeks
3- both 1& 2 are correct
4- excisional LN. biopsy

Answer: 3 is correct

- IF TST is negative and no response to the antibiotic trial:

-Serology for EBV, CMV, HIV

-Evaluate for Kawasaki disease and other uncommon causes of cervical LAP

- LN biopsy if LN does not regress after 4 weeks

Thank you


Source: https://www.livingandloving.co.my/child/common-questions-kids-ask-and-how-to-answer-them