

A 5-year-old boy is brought to the office with a mild fever up to 38.4 C (101 F) and a day of left-sided neck swelling. His mother says, "He was fine until yesterday, but now it's really bothering him." The boy has had no trauma to the area, has not been ill recently, and has no known sick contacts. All of his vaccinations are up to date. Current temperature is 37.8 C (100 F). Physical examination shows a red, tender, and fluctuant anterior cervical mass approximately 2 cm in diameter in the left anterior lymph node chain. His dentition and oropharynx are normal. There are no other areas of lymphadenopathy. Which of the following is the most likely infectious etiology?

- ☐ A. Adenovirus
- ☐ B. *Bartonella henselae*
- ☐ C. Cytomegalovirus
- ☐ D. Epstein-Barr virus
- ☐ E. *Mycobacterium avium*
- ☐ F. *Prevotella buccae*
- ☐ G. *Staphylococcus aureus*

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- ☐ A. Adenovirus [13%]
- ☐ B. *Bartonella henselae* [9%]
- ☐ C. Cytomegalovirus [3%]
- ☐ D. Epstein-Barr virus [10%]
- ☐ E. *Mycobacterium avium* [1%]
- ☐ F. *Prevotella buccae* [5%]
- ☒ G. *Staphylococcus aureus* [59%]

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Explanation:

User Id: [REDACTED]

Acute cervical adenitis in children		
Location	Pathogen	Additional features
Unilateral	<i>Staphylococcus aureus</i> , <i>Streptococcus pyogenes</i>	Pronounced erythema, tenderness
	Anaerobic bacteria (eg, <i>Prevotella buccae</i>)	Dental caries, periodontal disease
	<i>Bartonella henselae</i>	Papular nodular at site of cat scratch or bite

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	<i>Bartonella henselae</i>	Papular nodular at site of cat scratch or bite
	<i>Mycobacterium avium</i>	Gradual onset, nontender
Bilateral	Adenovirus	Pharyngoconjunctivitis
	EBV/CMV	Mononucleosis

CMV = cytomegalovirus; EBV = Epstein-Barr virus.

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Acute lymphadenitis (LAD) arises over a few days, whereas subacute/chronic LAD has a more indolent presentation over weeks to months. This child has acute, **unilateral** LAD, which is most commonly caused by *Staphylococcus aureus* and *Streptococcus pyogenes*. Acute LAD is most common in children age <5 and usually affects the submandibular nodes. Affected lymph nodes are **enlarged**, markedly **tender**, warm, and erythematous. If untreated, LAD can progress to suppuration and abscess.

The diagnosis of uncomplicated acute lymphadenitis can usually be made clinically. Empiric **antibiotic** therapy for acute, unilateral lymphadenitis typically involves clindamycin, which has activity against methicillin-resistant *S aureus* as well as *S pyogenes*.

(Choice A) Adenovirus and other upper respiratory tract infections are the most common cause of acute, bilateral LAD. Adenovirus can cause marked fever, pharyngitis, and conjunctivitis along with LAD.

(Choice B) *Bartonella henselae* is the cause of cat-scratch disease, which can present with a papular or nodular skin lesion at the site of injury accompanied by ipsilateral

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(Choice A) Adenovirus and other upper respiratory tract infections are the most common cause of acute, bilateral LAD. Adenovirus can cause marked fever, pharyngitis, and conjunctivitis along with LAD.

(Choice B) *Bartonella henselae* is the cause of cat-scratch disease, which can present with a papular or nodular skin lesion at the site of injury accompanied by ipsilateral lymphadenitis. Cat-scratch LAD has an indolent onset (eg, weeks).

(Choices C and D) Cytomegalovirus and Epstein-Barr virus can cause subacute/chronic, bilateral LAD in the setting of infectious mononucleosis (fever, fatigue, pharyngitis). Inguinal and axillary adenopathy are also usually present, although the cervical region is usually the most prominent.

(Choice E) Non-tuberculous mycobacteria (eg, *Mycobacterium avium*) are the most common cause of subacute unilateral LAD in young children. The onset is very slow and the affected lymph node is not tender.

(Choice F) Oral anaerobes, such as *Prevotella* sp, can cause acute LAD in the setting of poor dentition and caries. This child's dentition is normal.

Educational objective:

Staphylococcus aureus and *Streptococcus pyogenes* are the most common causes of acute, unilateral lymphadenitis in children. Submandibular nodes are most commonly affected and are enlarged, erythematous, and markedly tender.

References:

1. [Managing cervical lymphadenitis – a total pain in the neck!](#)
2. [Pediatric cervical lymphadenopathy.](#)