

A 17-year-old girl is brought in for evaluation of a 3-day history of neck "lumps," sore throat, cough, and decreased appetite. The patient has severe fatigue and has not been able to attend high school classes due to her symptoms. Although her energy level is low, she has not been sleeping well due to the throat and neck pain. She has no difficulty swallowing but has "hardly any appetite" and "forced" herself to eat breakfast this morning. Her parents recently divorced and she lives primarily with her mother. She sees her father every other weekend. The patient's temperature is 38.7 C (101.7 F), blood pressure is 120/76 mm Hg, and pulse is 86/min. Physical examination shows a tired-appearing girl with multiple, tender, mobile posterior cervical lymph nodes. Both tonsils are erythematous and swollen. The patient has no suicidal or homicidal ideations. Which of the following is the most useful next step in establishing the cause of this patient's fatigue?

- ☐ A. Bone marrow biopsy
- ☐ B. Cytomegalovirus IgM titer
- ☐ C. Heterophile antibody test
- ☐ D. Lymph node biopsy
- ☐ E. Peripheral smear
- ☐ F. Prescribing antidepressant therapy
- ☐ G. Rapid streptococcal antigen assay

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- ☐ A. Bone marrow biopsy [0%]
- ☐ B. Cytomegalovirus IgM titer [2%]
- ☒ C. **Heterophile antibody test** [86%]
- ☐ D. Lymph node biopsy [1%]
- ☐ E. Peripheral smear [3%]
- ☐ F. Prescribing antidepressant therapy [0%]
- ☐ G. Rapid streptococcal antigen assay [8%]

Proceed to Next Item

Explanation:

User Id: [REDACTED]

Infectious mononucleosis	
Etiology	Epstein-Barr virus most common
Clinical features	<ul style="list-style-type: none">• Fever• Tonsillitis/pharyngitis +/- exudates• Posterior or diffuse cervical lymphadenopathy• Significant fatigue• +/- Hepatosplenomegaly

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Diagnostic findings	<ul style="list-style-type: none">• Positive heterophile antibody (Monospot) test (25% false negative rate during first week of illness)• Atypical lymphocytosis• Transient hepatitis
Management	Avoid contact sports for ≥ 3 weeks due to the risk of splenic rupture

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Infectious mononucleosis (IM), also known as "the kissing disease" and "glandular fever," is usually spread by intimate contact among adolescents and young adults. It is characterized by the triad of **fever**, **cervical lymphadenopathy**, and **pharyngitis**. In addition, **fatigue** is a common symptom and can be debilitating, especially in female patients. Patients may have other nonspecific viral symptoms, such as cough and nausea. Lymph node enlargement is typically tender and mobile, and involves the **posterior cervical chain** most commonly. Tender **hepatosplenomegaly** is sometimes present.

The etiologic agent of IM is most commonly **Epstein-Barr virus (EBV)**, which is a member of the Herpesviridae family. The diagnosis is generally made by a positive **heterophile antibody (Monospot) test**. Heterophile antibodies are specific for IM and may persist in low levels for up to 1 year after initial infection. However, the test has a 25% false negative rate during the first week of illness, as it can take weeks for antibodies to develop. Therefore, an initial negative heterophile antibody test does not rule out the IM diagnosis. EBV-specific antibody testing can be ordered in those with more prolonged illness and negative heterophile antibody testing. Other expected

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(Choices A and D) Bone marrow examination and lymph node biopsy are performed when malignancy is suspected, such as in a patient with prolonged fatigue, hard, nontender lymphadenopathy, unexplained fevers, unintentional weight loss, and ongoing night sweats.

(Choice B) Cytomegalovirus (CMV) causes a milder pharyngitis and lymphadenopathy than EBV-induced IM. CMV IgM titers can be considered in patients with a negative heterophile antibody test.

(Choice E) Atypical lymphocytes are seen in the peripheral smear of patients with IM but are non-specific. They may also be present in patients with toxoplasmosis, rubella, roseola, viral hepatitis, mumps, CMV, acute HIV infection, and some drug reactions.

(Choice F) Unipolar depression is diagnosed by ≥ 5 depressive symptoms causing functional impairment for ≥ 2 weeks that is not secondary to drugs, medications, or another medical condition. This patient's fatigue and poor appetite are explained by an acute illness; antidepressant therapy is therefore not indicated.

(Choice G) Severe fatigue, cough, and posterior cervical lymphadenopathy are not usually seen in streptococcal pharyngitis. This patient's **Centor score** is 1 (presence of fever), and rapid streptococcal testing is likely low yield.

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Educational objective:

Infectious mononucleosis is characterized by acute onset of fever, posterior cervical lymphadenopathy, pharyngitis, and fatigue in an adolescent or young adult. The heterophile antibody test (monospot) is a rapid and specific diagnostic test.

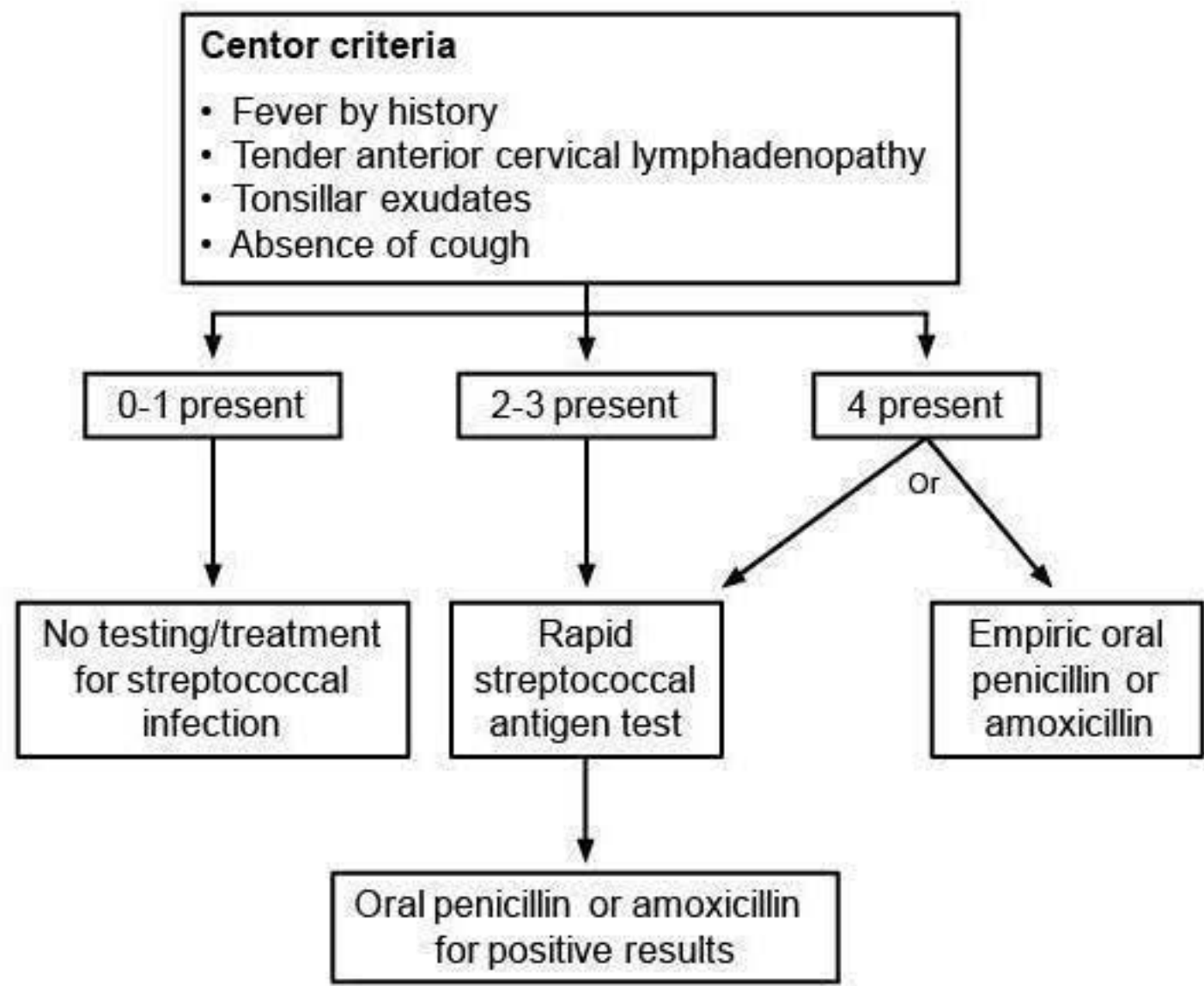
References:

1. [Common questions about infectious mononucleosis.](#)

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