

Self-Assessment in Family Practice

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This section of the Journal is designed to present clinical problems that focus on patient management, problem solving, and other elements integral to family medicine. The intent of this section is aimed more at teaching and learning than self-assessment as an evaluation or scoring device. Reinforcement of major teaching points is therefore included through the further discussion and supplemental references which appear on the following pages. Critical comments relating to these self-assessment materials are invited and should be submitted as Letters to the Editor.

Questions 1-4 each contain four suggested answers of which one or more is correct. Choose answer:

- A. if 1, 2, and 3 only are correct
- B. if 1 and 3 only are correct
- C. if 2 and 4 only are correct
- D. if 4 only is correct
- E. if all are correct

A 3¹/₂-year-old boy is brought to your office because a swelling in the left side of his neck has persisted for three weeks. He did have a slight cold a few weeks ago, but is now afebrile and feeling well. Physical examination reveals a 2×2-cm swelling in the left submandibular area. No focus of infection is evident, no other lymph nodes are enlarged, and the liver and spleen are not palpable.

1. The diagnostic steps appropriate to this situation would include which of the following?

- 1. Throat culture for streptococci
- 2. Antistreptolysin O (ASO) titer

3. Complete blood count and Monospot test

4. Intermediate strength tuberculin test (PPD)

2. Which statement(s) concerning childhood cervical lymphadenitis is/are not true?

- 1. The focus of infection is usually apparent on physical examination.
- 2. A negative throat and nasopharyngeal culture usually indicates that streptococci are not implicated.

3. Clinical findings such as fever, tenderness of the involved lymph node, and associated upper respiratory tract infection rule out malignancy in the differential diagnosis.

4. Excisional biopsy fails to provide the answer in a significant number of cases.

The child's complete blood count is normal, throat culture and Monospot negative, but the PPD test is positive to 8 mm. A chest x-ray examination is then ordered, and it appears to be negative. Aspiration reveals a few acid-fast bacteria on Ziehl-Neelsen stain.

3. What are the known facts about

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atypical mycobacteria lymphadenitis?

1. The portal of entry is the mouth.

2. Most of the time a single node in the neck is involved.

3. There is relative resistance to standard antituberculous therapy.

4. Controversy exists concerning adequate management, ranging from total excision to long-term chemotherapy.

You decide to send him to a surgeon for excision. The biopsy report reads: "caseating granulomas, with a few large mycobacteria." Findings on culture confirm the clinical impression of atypical mycobacteria.

4. Clinical decision making about the management of lymphadenopathy in children should include which of the following?

1. Patient education concerning the value of time in the diagnostic process

2. A more aggressive approach for an older age group

3. Consideration of the location of the enlarged node

4. An algorithmic workup, so as not to be inconsistent

Answers and Discussion

1. E. Staphylococci and streptococci account for a majority of the cases of single or multiple cervical lymphadenopathy or lymphadenitis in children.¹ A positive throat culture for group A β -hemolytic streptococci may be obtained with minimal or absent symptoms and signs. Similarly, an elevated ASO titre would help clarify the cause (the test may not be reliable in children under two years of age).² Infectious mononucleosis in children may present with findings similar to those with streptococcal disease, without lymphadenopathy in other areas, or splenomegaly. Serologic and hematologic tests may be needed to make the diagnosis. Streptococcal disease may coexist with infectious mononucleosis. Heterophil-negative Epstein-Barr virus disease and other mononucleosis-like conditions may also be responsible for childhood cervical lymphadenopathy. Atypical mycobacteria are particularly prevalent in the southeastern United States and are not an uncommon cause of swollen neck nodes. Two thirds of children so affected cross-react with the PPD test, exhibiting an induration up to (but often less than) 10 mm.

2. A. One reason for the management problem of the single cervical node is that the source of infection is usually not apparent.³ Several studies have shown that, not uncommonly, streptococci can be cultured from the node, despite a negative throat culture.^{1,2} The presence of tenderness does not adequately discriminate between enlarged nodes of infectious origin and those produced by other causes, such as Hodgkin's disease.^{3,4} Similarly, a low-grade fever and a history of recent upper respi-

ratory tract infection should not lull the physician into a false sense of security. "Nondiagnostic hyperplasia" was the pathologic report from more than one half of the lymph node biopsies done in a pediatric age group in one study.⁵ This may be partly due to the difficulty in interpreting specimens traumatized during surgery or in transfer, and partly to the tendency of juvenile lymphoid tissue to stay enlarged for prolonged periods with benign antigenic stimulation.

3. E. The atypical mycobacteria are ubiquitous in the environment, found in soil, water, and vegetation, especially in tropical and subtropical climates. It is speculated that the organisms enter the human host by way of the tonsils or through breaks in the buccal mucosa. In 90 percent of instances a single submandibular node is affected. Atypical acid-fast bacteria are differentiated from *Mycobacterium tuberculosis* by their cultural characteristics and from each other by serologic findings, enzyme studies, and phage typing. Almost all atypical acid-fast bacilli show poor susceptibility to antituberculous drugs, although the degree of resistance varies considerably. The finding of antibiotic resistance, especially to more than one antituberculous drug, in a culture obtained from an untreated patient should suggest that the organism is not *M tuberculosis*. Incision and drainage or aspiration, with or without antituberculous drugs, results in unacceptably high failure rates. Total excision of the involved lymph nodes and contiguous infected tissue is the treatment of choice. The addition of one year or more of chemotherapy to surgical excision provides no substantial

advantage to excision alone.^{4,5} 4. A. Childhood lymph node enlargement may regress with distressing slowness.⁶ Parents need to be informed of this and that extensive clinical investigations may be unrewarding. The location of the lymphadenopathy, especially if in the supraclavicular region, should prompt a more aggressive approach because of the more frequent association of mediastinal disease. An algorithmic workup may not be practical because of the time consumed and the ultimate expense. It may be less expensive to order multiple tests that might provide a clue to the enlarged node than have the patient return repeatedly.⁷ However, both the tests ordered and their sequence should be tailored to the specifics of the situation. The family physician is in a unique position to assess the emotional reaction of the child's family, not only to the diagnostic process but to the subsequent management.

References

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