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COVER

Working in the medium of batik, Paul Nzalamba creates images that are drawn from his native country, Uganda, and that reflect the strength, struggle, and beauty of all people, especially children and adolescents. We chose to use his "Art Play" (1988) to show a modern, indigenous artist's work that illustrates the color and joy of such artists. Mr. Nzalamba's works are on display at his studio in Los Angeles, California. Reproduced with permission.

ANSWER KEY

Hodgkin Disease


Lymph node enlargement is a frequent finding on the physical examination of children, and it is important for the pediatrician to recognize the differences between lymphadenopathy related to infection and lymphadenopathy that results from Hodgkin disease. A lymph node involved with Hodgkin disease usually is not painful or tender; infected nodes characteristically are. The nodes of Hodgkin disease are firm and rubbery, but not hard ("like a rock"). They tend to be fixed, to be minimally moveable if at all, but they may change in size over weeks and months, often becoming larger and smaller prior to diagnosis. Enlarged nodes in the upper half of the neck, in the anterior and posterior chains, and in the submandibular region generally are associated with respiratory tract infections in children; only rarely are cases of Hodgkin disease found here. Lower cervical and supraclavicular nodes are much more likely to show involvement with Hodgkin disease because of the anatomy of lymphatic drainage. The right lymphatic duct transports lymph from the chest and mediastinum to the right lower neck; the thoracic duct carries fluid from abdominal lymph nodes to the left lower neck. In the absence of an identifiable respiratory tract infection, an upper cervical lymph node should be biopsied if enlargement has not resolved within 3 to 6 weeks. If they are firm, lower cervical and supraclavicular nodes should be biopsied without delay and handled by the pathologist as potentially involved with Hodgkin disease.

Knight noted that of 239 lymph node biopsies in children younger than 16 years of age, 52% showed reactive hyperplasia; of the 13% that were malignant, two thirds revealed Hodgkin disease. When matched to the site of the lymphadenopathy, 11 of 23 supraclavicular and lower neck nodes were involved with Hodgkin disease (48%). The diagnostic yield of supraclavicular lymph node biopsies in children and adults was diagnostic in 90% of biopsies, axillary nodes in 63%, and inguinal nodes in 39%. The age group least likely to have diagnostic nodes was between 21 and 40 years old. Whenever Hodgkin disease is a consideration, the biopsy should be excisional to assure the pathologist a tissue sample adequate for determining the architecture of the node and identifying pathognomonic Reed-Sternberg cells.

More than 75% of patients who have Hodgkin disease have unilateral or bilateral lymphadenopathy low in the neck; about 30% have involvement of axillary nodes. Inguinal lymph node enlargement, so common among children, very infrequently signals the presence of Hodgkin disease. Pharyngeal, brachial, epitrochlear, or popliteal node involvement is rare, but persistent unilateral tonsillar enlargement should be evaluated by biopsy.

Children who have Hodgkin disease may experience weight loss, fevers, and night sweats (classic "B" symptoms); 20% to 35% of children have one or more of these symptoms at the time of presentation. The combination of lymphadenopathy and any symptoms suspicious of Hodgkin disease should accelerate the decision to biopsy the affected node(s).

Chest radiography, which is inexpensive and easily performed, also plays an important role in the evaluation of children when Hodgkin disease becomes a consideration. Widening of the mediastinum, perihilar lymph node enlargement, or pulmo-
Intra-abdominal Problems

Although not commonly considered to be a potential site for the cause of limping in children, the abdomen should be considered by the thorough physician, particularly when the cause for limping has not been found in the lower extremity or the spine (Table 4). Appendicitis can irritate the right iliopsoas muscle group, producing hip or thigh pain, muscle spasm, hip flexion deformity, and unilateral limping. A ruptured appendix or other cause of a pelvic abscess, such as erosive pelvic osteomyelitis, can irritate the obturator internus muscle and produce pelvic and/or hip pain. A psoas abscess usually will cause substantial pain in the groin and thigh. Unilateral renal disease, infection, or ureterolithiasis can produce back pain and spasm and, occasionally, limping. Retroperitoneal tumors may involve motor and/or sensory nerve fibers, resulting in unilateral weakness, leg pain, and limping. Even painful hernias in the inguinal or femoral canals can be an occult cause of a limp.

Conclusion

The child who has a limp may have a very serious problem until proven otherwise and the cause sometimes will be difficult to determine, but early diagnosis may avoid considerable morbidity.

SUGGESTED READING


PIR QUIZ

5. Mike is an 8-year-old boy who has had a limp and has complained of pain in his left hip for 2 weeks. He has no history of trauma or recent infection. Examination shows guarding of the muscles crossing the left hip joint and limitation of active and passive hip joint motion. You suspect he may have transient synovitis of the hip. Your diagnosis can be made most readily on the basis of:
   A. Aspiration of the hip joint.
   B. Effusion in the hip joint on ultrasonography.
   C. Elevation of the erythrocyte sedimentation rate.
   D. Exclusion of other hip problems.
   E. Intensity of hip pain.

6. Harry is a 5-year-old boy who has had a limp and a painful right hip for 1 month. He has no history of recent infection, and his parents do not recall any significant trauma. A radiograph shows apparent widening of the medial joint space and mild flattening of the femoral head. Physical examination reveals some buttock atrophy, decreased internal rotation of the hip, and joint tenderness on palpation. The most likely diagnosis is:
   A. Osteomyelitis.
   B. Perthes disease.
   C. Septic arthritis.
   D. Slipped capital femoral epiphysis.
   E. Transient synovitis.

7. Bill is a 12-year-old obese male who has complained of slight pain in the right thigh and knee for 6 weeks. His complaints are made worse by running. He has had a mild limp. He has no history of recent infection or trauma. Physical examination shows a slight decrease in internal rotation of the right hip. A radiograph shows metaphyseal osteopenia. Klein’s line intersects less of the femoral head on the right than on the left. The most likely diagnosis is:
   A. Osteomyelitis.
   B. Perthes disease.
   C. Septic arthritis.
   D. Slipped capital femoral epiphysis.
   E. Transient synovitis.

8. Beth is a 4-year-old girl who has a recent, sudden onset of pain in her right knee. She has a slight limp. Her temperature is elevated slightly, and she has been eating poorly. Her parents do not recall any trauma to her leg. Physical examination reveals slight redness and swelling of the right knee, guarding on passive motion, and associated muscle spasm. The most likely diagnosis is:
   A. Acute rheumatic fever.
   B. Juvenile rheumatoid arthritis.
   C. Lyme disease.
   D. Osteomyelitis.
   E. Septic arthritis.

**PIR QUIZ**

9. A mother who has just left your office returns, exclaiming frantically that her 2-year-old son choked on a grape. The boy is cyanotic, apprehensive, and struggling to breathe. The most appropriate first step is to:
A. Administer five back blows between the scapulae.
B. Administer five chest thrusts.
C. Administer abdominal thrusts.
D. Conduct a blind sweep of the mouth.
E. Perform a cricothyroidotomy.

10. A 3-year-old girl for whom you have provided regular care since birth is brought to your office with a burn of the palm of her right hand. On examination of the palm, you note a 3.0 × 2.0 cm area of generalized reddening with several small, unroofed blisters. The fingers are spared. The mother states that her daughter attempted to seize a hot ironing iron about 15 minutes ago. The patient has no known allergies. Which one of the following interventions is required for optimal management?
A. Administration of prophylactic antibiotics.
B. Application of silver sulfadiazine and a nonstick dressing.
C. Immediate referral to a hospital-based thermal burn specialist.
D. Notification of child protective services.

11. An 18-month-old boy is brought to your office by his mother after he was found crying near an extension cord. On examination, the boy is alert but irritable. You note a 1.5 cm wide semilunar, shallow ulceration of the lips at the right corner of the mouth consistent with an electrical burn. Which one of the following interventions is required for optimal management?
A. Administration of prophylactic antibiotics.
B. Application of silver sulfadiazine and a nonstick dressing.
C. Immediate referral to a hospital-based electrical burn specialist.
D. Notification of child protective services.

12. A 6-year-old boy is brought to your office after striking his head on the pavement when he tipped over his bicycle. He was said to be briefly groggy at the scene. He vomited once earlier and now complains of a mild generalized headache. However, he is fully alert (Glasgow Coma Score 15), recalls events leading up to and following the incident, and has otherwise unremarkable findings on general and neurologic examinations. His mother seems to be a competent observer. The most appropriate next step is to:
A. Immobilize the neck and order a cervical spine radiographic series.
B. Observe the patient at home without further diagnostic testing.
C. Obtain an immediate computed tomographic scan of the head.
D. Obtain plain skull radiographs.
E. Order baseline complete blood count and electrolyte levels.

13. A 17-year-old boy cut the bottom of his left foot on a piece of glass while walking barefoot on the beach. The wound has jagged margins and requires copious irrigation with normal saline to free it of sand and debris. Review of his medical history reveals completion of a full six-shot diphtheria and tetanus toxoids plus pertussis series by time of entry to kindergarten, but no subsequent immunizations. The most appropriate step to prevent tetanus in this circumstance is to administer:
A. Diphtheria and tetanus toxoids (DT)
B. Tetanus and diphtheria toxoid (Td)
C. Tetanus immune globulin (TIG)
D. TIG and Td