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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 "At 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


**IN BRIEF**

**Pinworms**


*Enterobius vermicularis*, more commonly known as pinworm, is the most common intestinal nematode in the United States, affecting 5% to 15% of the population. Although infection may appear in all age groups and socioeconomic levels, it is most prevalent in preschool and school-age children.

Typically, embryonated eggs are ingested and migrate to the duodenum where they hatch and undergo sexual maturation before reaching the cecum. Adult pinworms reside in the cecum, emerge at night through the anus, and migrate to the perianal region where gravid females deposit their eggs and die. The eggs cause anal pruritis, which leads to scratching and accumulation under the fingernails, thereby promoting auto-infection and spread to close contacts.

Although many infected patients are asymptomatic, the most common complaint of symptomatic individuals is nocturnal anal pruritis. Teeth grinding, irritability, loss of appetite, and enuresis all have been attributed anecdotally to infection, but no definitive relationship has been found. Rarely, abnormal migration of adult worms may cause vaginitis and salpingitis. Although occasionally noted in inflamed appendixes, no causal relationship has been established between pinworms and acute appendicitis.

Some physicians may treat the infestation based only on the history, but a definitive diagnosis should be made. Eggs are detected easily on adhesive cellophane tape that is applied to the perianal area early in the morning on awakening. The tape is applied to a slide and viewed under a low-power microscopic lens. Repeated examinations on successive mornings may be necessary.

Drugs of choice are either mebendazole (100 mg regardless of weight) or pyrantel pamoate (11 mg/kg), both given as a single dose and repeated 2 weeks later. Experience with both drugs is limited in children younger than 2 years of age. Alternative treatments include piperazine or pyrvinium pamoate, but they are less effective. Frequently, all family members are treated in an attempt to break the cycle of reinfection. Because pinworm infection often carries much unwarranted social stigma, reassurance to families that this infection is very common, often recurs, and does not reflect uncleanliness is an important component of therapy.

Howard Sonnenblick, MD
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**Comment:** It is not every day in this age of magnetic resonance imaging and positron emission tomography that a simple piece of clear adhesive tape and an old-fashioned microscope (not even electron!) provide all the visual technology we need to make a diagnosis. Simplicity has its rewards.

This also is an age of child care centers, and they provide an environment in which reinfection with pinworms happens quite readily despite treatment. Particularly in this setting, parents are likely to need help overcoming the almost predictable revulsion at the thought of their child having "worms"; counseling may be at least as important as mebendazole.

Henry M. Adam, MD
Associate Editor, In Brief
5. The most common cause of neonatal seizures is:
   A. An inborn error of metabolism.
   B. Cerebral malformation.
   C. Hypocalcemia.
   D. Hypoxic/ischemic encephalopathy.
   E. Pyridoxine deficiency.

6. The most common clinical type of seizure in the newborn is:
   A. Benign neonatal sleep myoclonus.
   B. Clonic seizure.
   C. Myoclonic seizure.
   D. Subtle seizure.
   E. Tonic seizure.

7. A term infant was born after a difficult labor. Apgar scores were 4 at 1 minute and 9 at 5 minutes. At 18 hours of age, the infant has a brief cyanotic spell, but subsequent examination shows an infant whose color now is good. There are no apparent physical abnormalities. Fluttering movements of the eyelids, chewing movements of the lips and mouth, and faint twitches of the hands and legs last 15 to 40 seconds and involve first one extremity, then another. The father of the infant reports that he had febrile seizures as a child. Blood is drawn for chemical examination. Results of electroencephalography are normal. Among the following, the most likely cause of the clinical findings is:
   A. Benign familial neonatal seizures.
   B. Early myoclonic encephalopathy.
   C. Hypoxic/ischemic seizures.
   D. Pyridoxine deficiency.
   E. Seizures due to hypoxic/ischemic encephalopathy.

8. A term infant was born after a difficult labor. Apgar scores were 4 at 1 minute and 9 at 5 minutes. On the fifth day, the infant is irritable, crying, and having rapid clonic or oscillatory movements of the extremities. The movements diminish when the infant is held or when the involved extremity is restrained, but they return in full intensity when he is put down or the restrained extremity is released. The movements increase in intensity when an attempt is made to elicit the Moro response. The infant seems alert when his attention can be obtained. Findings on physical examination otherwise are normal. Results of electroencephalography are normal. Among the following, the most likely explanation of the clinical findings is:
   A. Benign idiopathic neonatal seizures (“fifth day fits”).
   B. Drug withdrawal.
   C. Occurs in otherwise normal infants.
   D. Residual effect of maternal analgesia or anesthesia.
   E. Seizures due to hypoxic/ischemic encephalopathy.
It also is a disease that has importance for the primary care physician, who will be called on to identify those children at risk for these disorders among the many patients presenting with abdominal pain, weight loss, or vomiting. Consultation with a pediatric gastroenterologist is encouraged to facilitate confirmation of the diagnosis, which will aid in the choice of appropriate therapy.

SUGGESTED READING

PIR QUIZ
9. Assuming that no additional risk factors are present, among the patients listed, the one at greatest risk for developing a duodenal ulcer is:
A. A 10-year-old boy who requires an occasional ‘prednisone pulse’ to control seasonal exacerbations of asthma.
B. A 10-year-old boy whose father has been diagnosed as having a duodenal ulcer.
C. A 13-year-old boy who drinks alcohol at weekend parties.
D. A 13-year-old girl who smokes one half pack of cigarettes daily.
E. A 13-year-old girl who takes ibuprofen monthly for primary dysmenorrhea.

10. A correct statement about the pathophysiology of peptic ulcer disease is that:
A. Extracellular calcium plays no significant role.
B. Gastrin inhibits gastric acid secretion.
C. Helicobacter pylori preferentially attaches to duodenal epithelial cells.
D. Histamine acts directly on the parietal cell proton pump.
E. Prostaglandin E2 stimulates gastric mucus production.

11. A 4-year-old child who has a primary duodenal ulcer is most likely to present having:
A. Epigastric pain.
B. Intestinal perforation.
C. Intolerance to fatty foods.
D. Lost weight.
E. Recurrent vomiting.

12. An 11-year-old boy has had epigastric pain for the past 4 months. The pain frequently awakens him at night. Results of an upper gastrointestinal series were normal. The most appropriate next diagnostic step is:
A. Double-contrast upper gastrointestinal series.
B. Fasting serum gastrin level.
C. Repeat conventional upper gastrointestinal series.
D. Therapeutic trial of omeprazole.
E. Upper gastrointestinal endoscopy.

Match each listed therapeutic agent with its appropriate mechanism of action and indication for use in the prevention and/or treatment of peptic ulcer:
13. Augments blood flow, bicarbonate secretion, and gastric mucus production: prolonged NSAID use
14. Bactericidal; documented H pylori infection
15. Binds preferentially to injured mucosa; prevention of further injury
16. H2 receptor antagonist; failure of adequate response to antacid therapy
17. Proton pump inhibitor; Zollinger-Ellison syndrome
A. Bismuth
B. Misoprostol
C. Omeprazole
D. Ranitidine
E. Sucralfate

Pediatrics in Review to Hold 1996 Cover Art Contest: Works by Children!

In 1996, we plan to display a piece of art by children on the covers of our 1996 issues. Four pictures will be chosen, and the cover artwork will be changed quarterly.

Rules of the Contest
1. The contest will run from January through July 1995. (Winners will be chosen in August 1995 for display in 1996. PRIZES will be awarded to each winner!)
2. The theme of each submission: Draw a picture of you (ie, the child/adolescent artist) doing your favorite thing.
3. Qualification: The artist must be either between the ages of a) 5 and 10 years or b) 11 and 15 years. (There will be two categories, by age, for submission and judging.)
4. Requirements: The picture must be in color and be reproducible to a size of 3 inches by 4 inches. FREE HINT TO ARTISTS: Think Big! Small details don't show up as well.

Pediatricians: Please have your patients send art they would like considered to:
Sydney Sutherland,
Editorial Assistant
Pediatrics in Review
c/o The Department of Pediatrics, Box 777
University of Rochester Medical Center
601 Elmwood Avenue
Rochester, NY 14642
(716) 275-0170
apy, early recognition, and appropriate management of adverse effects can minimize the potential severe complications of GC therapy.

**SUGGESTED READING**


Falliers CF, Ellis EF, Bukantz SC. The course and management of varicella in children receiving steroids for intractable asthma. *South Med J.* 1986;57:1054–1058

Hollister JR, Bower SL. Adverse side effects of corticosteroids. *Semin Respir Med.* 1987;8:400–405


**PIQ QUIZ**

18. Among general considerations regarding administration of glucocorticoid hormones, the most correct statement is:
   A. A false-positive tuberculin skin test will be elicited on testing after 7 to 10 days of oral glucocorticoid therapy.
   B. Disseminated herpes simplex is a major hazard of chronic glucocorticoid therapy.
   C. Glucocorticoid therapy results in greater suppression of aldosterone secretion than cortisol secretion.
   D. Live virus vaccines are contraindicated during glucocorticoid therapy equivalent to 20 mg or more of prednisone daily.

19. The most correct statement regarding adverse effects of glucocorticoid therapy in children is:
   A. Distal muscle atrophy is associated with elevation of muscle enzyme levels in plasma after prolonged therapy.
   B. Insidious development of glaucoma is the most common ophtalmologic complication.
   C. Oral doses greater than 5 mg daily for 6 months or longer have a high association with osteoporosis.
   D. Suppression of linear growth is unlikely with doses less than 40 mg orally given on alternate days.

20. An 8-year-old girl who has asthma has been given glucocorticoid therapy in the form of prednisone, 20 mg daily for 1 year. She requires an emergency appendectomy. The most appropriate approach to the immediate management of her adrenocortical status is:
   A. Administer adrenocorticotropic hormone 1 USP unit/kg intramuscularly preoperatively and repeat every 12 hours for the next 48 hours.
   B. Cover possible glucocorticoid and mineralocorticoid deficiencies by administering calculated physiologic replacement doses of both hormones.
   C. Determine adequacy of adrenal function by measuring the cortisol/creatinine ratio on a spot urine sample to guide replacement needs.
   D. Give a methylprednisolone preparation 1 mg/kg intravenously preoperatively and every 6 hours for the next 48 hours.
   E. Substitute treatment with an aerosolized glucocorticoid in twice the usual dose preoperatively and repeat every 3 hours for the next 48 hours.

21. A 5-year-old girl who has severe juvenile rheumatoid arthritis has received prednisone 1 mg/kg per day for the past month. The mother has been informed that a classmate of the patient was sent home from school 4 days ago with early lesions of varicella. The patient has a negative varicella antibody titer. The rheumatologist is reluctant to discontinue the glucocorticoid therapy. The most appropriate approach to the management of this patient is:
   A. Administer varicella zoster immune globulin immediately.
   B. Begin oral acyclovir at onset of the rash.
   C. Change the glucocorticoid therapy to an aerosolized form of medication.
   D. Give intravenous acyclovir at onset of the rash.
   E. Start an antistaphylococcal antibiotic at onset of the rash to prevent sepsis.

22. Patients who have systemic lupus erythematosus and receive chronic glucocorticoid therapy have unique complications. The most important of these is:
   A. Accelerated onset of insulin-dependent diabetes mellitus.
   B. Chronic progressive form of ulcerative colitis.
   C. Development of aseptic necrosis of the hip joint.
   D. Recurrent fungal infections of the lungs.
7. ASTHMA MEDICAL RECORD KEEPING
Which of the following are documented in the asthma patient’s medical record with each clinical visit or phone conversation? (Note: the visit or consultation does not have to be specifically for asthma.) Check all that apply.

a. Current peak expiratory flow rate .................................................................

b. Current level of physical activity ........................................................................

c. Frequency of asthma attacks ............................................................................

d. Current severity of asthma symptoms ..............................................................

e. Medication changes (different from or at variance with the original treatment plan) ........................................................................

f. Specific triggers (precipitating events) affecting child’s asthma ..............................