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AMERICAN ACADEMY OF PEDIATRICS
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Cover: Breton Girls, Dancing, Pont Aven, by Paul GAUGUIN (Copyright, National Gallery of Art, Washington, DC; Collection of Mr and Mrs Paul Mellon). Gauguin was a French Symbolist and lived from 1848 to 1903. Gauguin traveled the world as a seaman and pursued a career in banking in Paris and Copenhagen before concentrating on his skills as a painter and sculptor. He was determined to develop a new approach to painting through which to symbolically express a thought or mood, in contrast to the impressionist approach which sought to reproduce a scene through the exact recording of every nuance of color and light. Completed in 1888, Breton Girls Dancing, Pont Aven is one of Gauguin’s earliest works in this new style. The themes of friendship, community, exercise, and appreciation of nature depicted here are important elements in the total health and development of every child.

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Hematuria

Self-Evaluation Quiz

1. A positive dipstick test of urine for hematuria is least likely to be due to:
   A. Urinary tract infection.
   B. High concentration of ascorbic acid in urine.
   C. Myoglobinuria.
   D. Hypercalcemia.
   E. Oxalosis.

2. A 7-year-old boy has had reddish urine with a dipstick test result negative for hematuria. Among the following, the least likely explanation for this finding is ingestion of:
   A. Ex-Lax (phenolphthalein).
   B. Beets (anthocyanin).
   C. Blackberries.
   D. Nitrofurantoin.
   E. Aspirin.

3. Among the following, the least likely useful study in the evaluation of hematuria in a child is likely to be:
   A. Blood urea nitrogen level.
   B. Creatinine level.

4. Among the following, the finding most convincingly indicating that hematuria is of glomerular origin is:
   A. Proteinuria >100 mg/m² per day.
   B. Hypertension.
   C. Edema.
   D. RBC casts.
   E. Brownish color to urine.

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Hirschsprung Disease


A total of 309 infants and children who were constipated were evaluated with rectal manometry and punch biopsy to exclude the possibility of Hirschsprung disease. The accuracy of acetylcholinesterase histochemistry vs routine hematoxylin-eosin staining techniques on biopsy specimen was compared. The authors reported 99% diagnostic accuracy with acetylcholinesterase histochemistry vs 61% accuracy obtained with hematoxylin-eosin staining.

Of 309 patients evaluated, 261 underwent rectal manometry; 233 had chronic constipation and 24 were later found to have Hirschsprung disease. Abnormal manometric study results were noted in 23 of 24 children in whom Hirschsprung disease was diagnosed; the results were also abnormal in 8 patients with functional constipation.

The authors recommended that rectal manometry be used as the initial noninvasive screening test in constipated children who can cooperate. Patients who are unsuitable for manometric study or who have abnormal results should then undergo punch rectal biopsy with acetylcholinesterase histochemistry testing to rule out aganglionosis.

Comment: The authors pointed out that acetylcholinesterase histochemistry testing is widely used in Europe and Japan. One of the difficulties has been convincing American pathologists to undertake the procedure, which requires special preparation and materials. They also pointed out that the technique enables interpretation of biopsy specimens that would previously have been deemed inadequate, biopsy specimens in which only mucosa was obtained. The diagnosis of Hirschsprung disease has always been dependent on full-thickness rectal biopsy specimens to ensure that submucosa would be present for identification of ganglion cells. If the diagnosis can be made accurately and less invasively, then more expertise with this technique should be sought. (L McLoughlin, MD, Children's Hospital of New Jersey)
SUGGESTED READING


Self-Evaluation Quiz

5. Among neurologically handicapped children, obesity is most likely to be a problem in those who have:
   A. Athetosis.
   B. Muscular dystrophy.
   C. Myelodysplasia.
   D. Spastic diplegia.

6. For a neurologically handicapped child the management of obesity will depend most critically on:
   A. The parents’ view of the obesity as a problem.
   B. Limiting fat intake.
   C. Major reconstruction of the child’s diet.
   D. A high protein intake.

Four 7-year-old handicapped children (A–D) have the following findings:

<table>
<thead>
<tr>
<th>Weight for Age</th>
<th>Height for Age</th>
<th>Weight for Height</th>
<th>Bone Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. 5th %ile</td>
<td>A. 25th %ile</td>
<td>A. 5th %ile</td>
<td>A. 7 y</td>
</tr>
<tr>
<td>B. 5th %ile</td>
<td>B. 5th %ile</td>
<td>B. 25th %ile</td>
<td>B. 5 y</td>
</tr>
<tr>
<td>C. 5th %ile</td>
<td>C. 50th %ile</td>
<td>C. &lt;5th %ile</td>
<td>C. 7 y</td>
</tr>
<tr>
<td>D. 5th %ile</td>
<td>D. 10th %ile</td>
<td>D. 10th %ile</td>
<td>D. 6 y</td>
</tr>
</tbody>
</table>

7. Of the above sets of findings, which is most likely to represent normal growth?

8. Of the above sets of findings, which is most likely to represent an acute nutritional disturbance?

9. Among the following, the most sensitive indicators of body composition would be given by measurements of:
   A. Serum protein and transferring levels.
   B. Dietary calories.
   C. Triceps skinfold thickness and midarm circumference.
   D. Height, weight, and weight-for-height percentiles.

Fifth Disease Virus Associated With Aplastic Crises


Human parvovirus B-19 infection causes a spectrum of disease, including asymptomatic infection, erythema infectiosum (fifth disease), arthritis and arthralgia, fetal death, and transient aplastic crisis in patients with chronic hemolytic anemia. Patients with transient aplastic crisis appear pale and weak and 1 to 7 days before had a prodromal illness. Recovery occurs in 7 to 10 days but may require transfusion. Hospitalized patients with human parvovirus B-19 transient aplastic crisis should be isolated because of the possibility of nosocomial transmission. Children with chronic hemolytic anemias are at risk in schools and day-care centers during human parvovirus B-19 outbreaks. Specific policies to exclude high-risk children do not exist, but prudent individual consulting is advisable.

Comment: Human parvovirus B-19 infection, known to most physicians as benign fifth disease, can cause fatal illness in select patients. Acute hemolytic crisis in patients with sickle cell disease, SC disease, spherocytosis, β-thalassemia, and autoimmune hemolytic anemias can be caused by parvovirus B-19. A differential diagnosis should always include B-19 parvoviral infection. This virus can be identified by the Centers for Disease Control on a limited basis. Consultation with state health departments and the Centers for Disease Control is advisable. (Daniel D. Chapman, MD, Editorial Board)
Hypoglycemia

REFERENCES

SUGGESTED READING

Self-Evaluation Quiz
10. In the evaluation of hypoglycemia in a young child, the least likely helpful diagnostic test among the following would be:
A. Oral glucose tolerance test.
B. Serum ketones level.
C. Serum lactic acid level.
D. Plasma insulin level.
E. Plasma level of growth hormone.

11. In an infant with hypoglycemia, simultaneous measurement of serum glucose and growth hormone levels 4 hours after a feeding, at a time when the infant was symptomatic, found both levels to be abnormally low. These findings suggest that the primary defect is most likely to be:
A. Hyperinsulinism.
B. Hypopituitarism.
C. Glycogen storage disease, type I (von Gierke).
D. Accelerated fasting.
E. Phosphoenolpyruvate carboxykinase deficiency.

12. In an infant or child with postprandial hypoglycemia, among the following findings the least likely is:
A. Weakness.
B. Tremor.
C. Pallor.
D. Bradycardia.
E. Cold sweat.

13. An infant with hypoglycemia has apparently suppressed serum levels of insulin and appropriately elevated levels of ketones at a time when she is symptomatic as a result of hypoglycemia. These findings suggest that among the following her primary condition is most likely to be:
A. A disorder of fatty acid metabolism.
B. Carnitine deficiency.
C. Glycogen storage disease, type I.
D. Hyperinsulinism.
E. Hypopituitarism.

Department of Corrections
In the article by Dewitt in the July 1989 issue of Pediatrics in Review, "Acute Diarrhea in Children," it is unfortunate that in Table 3 on page 11 the spelling of the rehydration solution "Rehydralyte" was printed as "Rydrolute." In addition, Hydra-Lyte and Infalyte are no longer marketed.