Antifungal Drugs — Cross, Hickerson, Yamauchi

Autism and the Pervasive Developmental Disorders: Part 1 — Bauer

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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

Itraconazole is metabolized almost exclusively in the liver, with fecal excretion varying between 3% and 18% and renal excretion at less than 0.03% of the parent drug. No abnormalities were noted in serum levels among patients who had renal impairment. Limited data suggest that those patients who have hepatic dysfunction should have their liver function monitored while receiving itraconazole therapy.

CLINICAL USES
The data on itraconazole’s therapeutic efficacy are limited; no randomized, blinded trials comparing it with amphotericin B have been published. Limited data suggest that it is more effective in treating tinea corporis and tinea cruris than is griseofulvin. Experience with the drug shows excellent activity against histoplasmosis, blastomycosis, and sporotrichosis, and it now may be considered the drug of choice for these infections. Infection with phaeohyphomycoses responds to this agent, according to anecdotal reports.

Its use in meningitis is limited, and it cannot be recommended for CNS infections, although patients who have cryptococcal meningitis have been reported to have been treated successfully. Its use in patients who have invasive aspergillosis is promising but will depend on the results of controlled studies that currently are underway. At present, indications are for blastomycosis (pulmonary and extrapulmonary) and for histoplasmosis (including chronic cavitary pulmonary disease and disseminated, nonmeningeal histoplasmosis). Itraconazole appears to be superior to fluconazole or ketoconazole as primary therapy or suppressive therapy of histoplasmosis in patients who have AIDS.

TOXICITY
The most common adverse reactions associated with itraconazole use include nausea, vomiting, and rash, which are more common in immunocompromised patients. Coadministration of terfenadine and itraconazole is contraindicated because there have been rare cases of serious cardiovas-

cular adverse effects, including death, in patients receiving the drugs concomitantly. The use of astemizole and loratadine also are contraindicated because of similar adverse effects as with ketoconazole. Hepatic enzyme tests should be monitored in patients who have preexisting hepatic function abnormalities.

DOSAGE AND ADMINISTRATION
The recommended dose of itraconazole for adults for most infections is 200 mg once daily. A dose in newborns of 10 mg/kg was used successfully in one case report, but no other data exist on the safety and efficacy of this dose in other children. Most likely, a dose of 5 to 10 mg/kg per day will be effective for children; however, caution must be exercised until other controlled trials of this agent are published.

SUGGESTED READING
Prevention

Prevention of ARF, obviously, is the best form of therapy. Certain clinical situations may predispose to the development of ARF and should be recognized. Some preventive measures include:

1. Monitor the patient at risk.
2. Provide adequate hydration and maintenance of extracellular fluid volume (ECV) prior to the administration of radiocontrast material, amphotericin B, or aminoglycosides.
3. Administer nephrotoxic drugs in appropriate doses and monitor drug levels carefully. If possible, use alternative medication and limit the length of patient exposure.
4. Alkalize urine (pH >6.5) and adequately hydrate patients who have hyperuricemia or pigmenturia.
5. Use xanthine oxidase inhibitors to prevent hyperuricemia, such as in tumor lysis syndrome.
6. Treat prerenal conditions promptly via intravenous fluid to expand ECV and via osmotic and loop diuretics to increase blood flow and decrease cast formation if cardiovascular status allows.
7. Administer low-dose dopamine infusion (3 to 5 μg/kg per minute) to patients who are in cardiac failure and have other conditions that compromise renal perfusion.
8. Ameliorate ARF with nutrients and hormones; vasodilators and cytoprotective agents can help. Experimental studies have indicated a role for the following agents in animal studies and limited clinical trials. However, the beneficial effects of thyroxine, atrial natriuretic factor, insulin growth factor, prostaglandin analogs, adenosine triphosphate-magnesium chloride, calcium channel blockers, and dopamine need to be established more firmly.

SUGGESTED READING


Beck F, Thura K, Gstraunthaler G. Pathophysiology and pathobiocchemistry of acute renal failure. In: Seldin DW, Giebisch G, eds. The Kidney: Physiology and Patho-


PEDiATRICS in REVIEW Vol. 16 No. 4 April 1995

PIR QUIZ
17. After staying with a baby sitter over a weekend, a 6-month-old girl develops a diaper rash. The girl appears well. You note an erythematous, slightly scaly eruption over her buttocks, lower abdominal wall, labia majora, and proximal thighs, with sparing of the inguinal folds. The remainder of her examination is unremarkable. The most appropriate diagnosis is:
A. Candidal dermatitis.
B. Irritant dermatitis.
C. Miliaria.
D. Psoriasis.
E. Seborrheic dermatitis.

18. A 5-month-old girl has a diaper rash that has persisted for 1 month despite two courses of nystatin. The girl is otherwise healthy. An erythematous, scaly rash is present in the inguinal folds, behind the ears, and over the scalp. The remainder of her examination is unremarkable. The most appropriate diagnosis is:
A. Atopic dermatitis.
B. Letterer-Siwe disease.
C. Psoriasis.
D. Psoriasisiform id reaction.
E. Seborrheic dermatitis.

Match each of the following sets of clinical findings with the appropriate infectious agent.
19. Flaccid bullae and pustules over proximal thighs and lower abdominal wall.
20. Moist erosions in diaper area; desquamation of palms and soles.
21. Red, scaly plaques in inguinal folds; satellite papules and pustules:
   A. Candida albicans
   B. Staphylococcus aureus
   C. Treponema pallidum

22. A previously well 6-month-old girl has an erythematous, slightly scaly eruption over her buttocks, lower abdominal wall, labia majora, and proximal thighs for the past 2 days. The inguinal creases are spared. Appropriate management would include switching to ultraabsorbent diapers, more frequent diaper changes, and:
   A. Coal tar ointment.
   B. Desatin® cream.
   C. Mycolog® cream.
   D. Nystatin cream.
   E. Triamcinolone cream (0.025%).

23. A parent can best prevent irritant diaper dermatitis in a healthy 6-month-old infant by:
   A. Changing diapers frequently.
   B. Increasing dietary ascorbic acid content.
   C. Switching from breast to formula feeding.
   D. Using cloth diapers in place of disposable ones.
   E. Using commercial diaper wipes regularly.

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 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
SUGGESTED READING

TABLE 7. Regimens for Genitourinary/Gastrointestinal Procedures: Infective Endocarditis Prophylaxis

<table>
<thead>
<tr>
<th>DRUG</th>
<th>DOSAGE REGIMEN*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard Regimen</strong></td>
<td></td>
</tr>
<tr>
<td>Ampicillin, gentamicin, and amoxicillin</td>
<td>IV or IM administration of ampicillin 2.0 g plus gentamicin 1.5 mg/kg (not to exceed 80 mg) 30 min before procedure, followed by amoxicillin 1.5 g orally 6 h after initial dose; alternatively, the parenteral regimen may be repeated once 8 h after initial dose.</td>
</tr>
<tr>
<td><strong>Ampicillin/Amoxicillin/Penicillin-allergic Patient Regimen</strong></td>
<td></td>
</tr>
<tr>
<td>Vancomycin and gentamicin</td>
<td>IV administration of vancomycin 1.0 g over 1 h plus IV or IM administration of gentamicin 1.5 mg/kg (not to exceed 80 mg) 1 h before procedure; may be repeated once 8 h after initial dose.</td>
</tr>
<tr>
<td><strong>Alternate Low-risk Patient Regimen</strong></td>
<td></td>
</tr>
<tr>
<td>Amoxicillin</td>
<td>3.0 g orally 1 h before procedure, then 1.5 g 6 h after initial dose.</td>
</tr>
</tbody>
</table>

*Initial pediatric doses are as follows: ampicillin, 50 mg/kg; amoxicillin, 50 mg/kg; gentamicin, 2.0 mg/kg; and vancomycin, 20 mg/kg. Follow-up doses should be half the initial dose. Total pediatric dose should not exceed total adult dose.

PIR QUIZ
24. Antibiotic prophylaxis is not recommended for the pediatric patient who has:
   A. Aortic stenosis.
   B. Atrial septal defect, secundum.
   C. Coarctation of the aorta.
   D. Patent ductus arteriosus.
   E. Ventricular septal defect.
25. The antibiotic of choice for prophylaxis during dental, oral, or upper respiratory tract procedures in patients who are at risk is:
   A. Amoxicillin.
   B. Cefaclor.
   C. Chloramphenicol.
   D. Penicillin.
   E. Vancomycin.
26. Which of the following is not a feature of subacute bacterial endocarditis?
   A. Anemia.
   B. Early cardiac decompensation.
   C. Fever.
   D. Night sweats.
   E. Weight loss.
27. The most diagnostic cardiac study that every patient who has subacute bacterial endocarditis should have is:
   A. Chest radiograph, posteroanterior and lateral.
   B. Cineangiography.
   C. Echocardiogram.
   D. Electrocardiogram.
   E. Hemodynamic cardiac catheterization study.
28. The ultimate laboratory test finding to make the diagnosis of subacute bacterial endocarditis is:
   A. Abnormal electrocardiogram.
   B. Decreased hemoglobin.
   C. Elevated erythrocyte sedimentation rate.
   D. Elevated white blood count.
   E. Positive blood culture.