

Letters to the Editor

The Journal welcomes Letters to the Editor; if found suitable, they will be published as space allows. Letters should be typed double-spaced, should not exceed 400 words, and are subject to abridgment and other editorial changes in accordance with journal style.

Treatment of Streptococcal Pharyngitis

To the Editor:

I write concerning the article "Streptococcal Throat Infections in Family Practice," by Robert Gillette (*J Fam Pract* 6:251, 1978). I am happy to see the problem of streptococcal pharyngitis discussed in Dr. Gillette's excellent paper. However, I believe some reactions and further perspectives on this subject deserve mention.

1. Dr. Gillette offers the referenced comment that about one third of sore throats are streptococcal, and then uses this to extrapolate how many of the cases of pharyngitis in the Virginia Study¹ were streptococcal. This is a very tenuous assumption to make. An excellent article by a Canadian family physician, W. J. Hart, revealed only ten percent of throat cultures positive for streptococcus, and a large study at the Children's Hospital National Medical Center revealed 11 and 16 percent of cultures taken became positive.^{2,3} In our own four-month study, we found 11 percent of our throat cultures positive for beta streptococcus. Furthermore, Wannamaker



has suggested that perhaps only 50 percent of positive throat cultures for beta strep are true acute infections, ie, with an antibody rise.⁴ My point is, the fraction of pharyngitis cases that are streptococcal is highly variable, ranging from less than 10 percent in some studies to perhaps 40 percent in others. This should be made clear and perhaps documented for any given data referred to (eg, the Virginia Study).

2. Dr. Gillette suggests that appropriate antibiotic given early in the course of an acute streptococcal pharyngitis provides dramatic relief of symptoms. However, I know of no controlled studies in the literature to support this. Alternatively, two studies reflect the opposite point of view.^{5,6} I respect all physicians' opinions, perhaps based on years of experience, but we must realize there may be a large placebo effect associated with prescribing penicillin, as well as the fact that the natural history of streptococcal pharyngitis is to improve, even without therapy. A well-controlled, double-blind study concerning this issue would be an

Continued on page 436

Tussionex[®]

(resin complexes of hydrocodone and phenyltoloxamine)

The antitussive that goes further.

Composition: Each capsule, teaspoonful (5 ml.) or tablet contains 5 mg. hydrocodone (Warning: may be habit-forming), and 10 mg. phenyltoloxamine as cationic resin complexes.

Effects: An effective antitussive which acts for approximately 12 hours.

Dosage: Adults: 1 teaspoonful (5 ml.), capsule or tablet every 8-12 hours. May be adjusted to individual requirements.


Children: From 1-5 years: ½ teaspoonful every 12 hours. Over 5 years: 1 teaspoonful every 12 hours.

Side Effects: May include mild constipation, nausea, facial pruritus, or drowsiness, which disappear with adjustment of dose or discontinuance of treatment.

Precaution: In young children the respiratory center is especially susceptible to the depressant action of narcotic cough suppressants. Benefit to risk ratio should be carefully considered especially in children with respiratory embarrassment. Estimation of dosage relative to the age and weight of the child is of great importance.

Overdosage: Immediately evacuate the stomach. Respiratory depression, if any, can be counteracted by respiratory stimulants. Convulsions, sometimes seen in children, can be controlled by intravenous administration of short-acting barbiturates.

How Supplied: Tussionex Capsules, green and white. Bottles of 50. Tussionex Suspension, neutral in taste, golden color; 16 oz. and 900 ml. bottles. Tussionex Tablets, light brown, scored; bottles of 100. A prescription for 2 oz. of the Suspension, or 12 Tablets or Capsules, constitutes a 6-day supply in the average case.

 **PENNWALT**

Pennwalt Prescription Products
Pharmaceutical Division
Pennwalt Corporation
Rochester, New York 14603

Ilosone® (erythromycin estolate)

Brief Summary.

Consult the package literature for prescribing information.

WARNING

Hepatic dysfunction with or without jaundice has occurred, chiefly in adults, in association with erythromycin estolate administration. It may be accompanied by malaise, nausea, vomiting, abdominal colic, and fever. In some instances, severe abdominal pain may simulate an abdominal surgical emergency.

If the above findings occur, discontinue Ilosone promptly. Ilosone is contraindicated for patients with a known history of sensitivity to this drug and for those with preexisting liver disease.

Indications: Included among the indications for this drug is *Streptococcus pyogenes* (Group A Beta-Hemolytic)—Upper and lower respiratory tract, skin, and soft-tissue infections of mild to moderate severity.

Injectable penicillin G benzathine is considered by the American Heart Association to be the drug of choice in the treatment and prevention of streptococcal pharyngitis and in long-term prophylaxis of rheumatic fever.

When oral medication is preferred for treating the above-mentioned conditions, penicillin G or V or erythromycin is the alternate drug of choice.

The importance of the patient's strict adherence to the prescribed dosage regimen must be stressed when oral medication is given. A therapeutic dose should be administered for at least ten days.

Consult the package literature for other indications.

Contraindication: Known hypersensitivity to this antibiotic.

Warnings: (See Warning box above.) The administration of erythromycin estolate has been associated with the infrequent occurrence of cholestatic hepatitis. Laboratory findings have been characterized by abnormal hepatic function test values, peripheral eosinophilia, and leukocytosis. Symptoms may include malaise, nausea, vomiting, abdominal cramps, and fever. Jaundice may or may not be present. In some instances, severe abdominal pain may simulate the pain of biliary colic, pancreatitis, perforated ulcer, or an acute abdominal surgical problem. In other instances, clinical symptoms and results of liver function tests have resembled findings in extrahepatic obstructive jaundice.

Initial symptoms have developed in some cases after a few days of treatment but generally have followed one or two weeks of continuous therapy. Symptoms reappear promptly, usually within 48 hours after the drug is readministered to sensitive patients. The syndrome seems to result from a form of sensitization, occurs chiefly in adults, and has been reversible when medication is discontinued.

Usage in Pregnancy—Safety of this drug for use during pregnancy has not been established.

Precautions: Caution should be exercised in administering the antibiotic to patients with impaired hepatic function.

Surgical procedures should be performed when indicated.

Adverse Reactions: The most frequent side effects are gastrointestinal (e.g., abdominal cramping and discomfort) and are dose related. Nausea, vomiting, and diarrhea occur infrequently with usual oral doses.

During prolonged or repeated therapy, there is a possibility of overgrowth of nonsusceptible bacteria or fungi. If such infections arise, the drug should be discontinued and appropriate therapy instituted.

Mild allergic reactions, such as urticaria and other skin rashes, have occurred. Serious allergic reactions, including anaphylaxis, have been reported.

Administration and Dosage: *Adults*—The usual dosage is 250 mg every six hours. This may be increased up to 4 gm or more per day according to the severity of the infection.

Children—Age, weight, and severity of the infection are important factors in determining the proper dosage. The usual regimen is 30 to 50 mg per kg per day in divided doses. For more severe infections, this dosage may be doubled.

If administration is desired on a twice-a-day schedule in either adults or children, one-half of the total daily dose may be given every 12 hours.

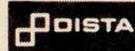
Streptococcal Infections—For the treatment of streptococcal pharyngitis and tonsillitis, the usual dosage range is 20 to 50 mg per kg per day in divided doses.

Body Weight	Total Daily Dose
10 kg or less (less than 25 lb)	250 mg
11-18 kg (25-40 lb)	375 mg
18-25 kg (40-55 lb)	500 mg
25-36 kg (55-80 lb)	750 mg
36 kg or more (more than 80 lb)	1000 mg (adult dose)

In the treatment of group A beta-hemolytic streptococcal infections, a therapeutic dosage of erythromycin should be administered for at least ten days. In continuous prophylaxis of streptococcal infections in persons with a history of rheumatic heart disease, the dosage is 250 mg twice a day.

Consult the package literature for further dosage information. [060278]

800742



Address medical inquiries to:
Dista Products Company
Division of Eli Lilly and Company
Indianapolis, Indiana 46206

Mfd. by Eli Lilly and Company, Inc. • Carolina, Puerto Rico 00630

LETTERS TO THE EDITOR

Continued from page 432

ideal topic of research for current family physicians.

3. In further supporting the use of the throat culture for all cases of pharyngitis, I refer to Hart's work again.² In this study, four physicians performed cultures on 540 patients complaining of sore throat, withholding treatment until the results were known. Their clinical diagnosis was correct in only 56 percent of cases. Without relying on the culture, 190 patients would have been treated unnecessarily, and 22 cases of strep throat would have gone unrecognized. In our own residency setting, we have documented that, even when our residents are highly suspicious of streptococcal pharyngitis, they are correct (by positive culture) in only one third of cases.

4. Finally, concerning the technique of throat culturing, Dr. Gillette describes a practical and efficient method. However, recent studies have suggested that primary plating of bacitracin discs, with reliance on the appearance of a primary zone of inhibition, can lead to a high percentage of false-negative interpretations.^{7,8} To avoid missing these false negatives, it may be wise not to require the appearance of a zone of inhibition on first-day interpretations as a criterion for treatment. Ideally, applying the bacitracin disc to a pure subculture on a second-day plate will more accurately identify Group A beta hemolytic streptococcus.

I realize that the management of streptococcal pharyngitis has long been debated and will continue to be discussed. However, we in family practice must strive to be as current, and at the same time as prac-

tical, as possible in our management of this common infection.

J. Christopher Shank, MD
Director of Research
Cedar Rapids
Family Practice Center
Cedar Rapids, Iowa

References

1. Marsland DW, Wood M, Mayo F: Content of family practice: Rank order of diagnoses by frequency. *J Fam Pract* 3:38, 1976
2. Hart WJ: Streptococcal pharyngitis. *Can Fam Physician* 22:516, 1976
3. Pedreira FA, Margileth AM, Perry LW, et al: Streptococcal surveillance during 1975: Experience with rheumatic fever and rheumatic heart disease. *Clin Proc, Childrens Hospital National Medical Center* 33:51, 1977
4. Wannamaker LW, Ferrieri P: Streptococcal infections: Updated. *DM, October* 1975, pp 3-17
5. Brink WR, Rammelkamp CH Jr, Denny FW, et al: Effect of penicillin and aureomycin on the natural course of streptococcal tonsillitis and pharyngitis. *Am J Med* 10:300, 1951
6. Merenstein JH, Rogers KD: Streptococcal pharyngitis: Early treatment and management by nurse practitioners. *JAMA* 227:1278, 1974
7. Murray PR, Wold AD, Hall MM, et al: Bacitracin differentiation for presumptive identification of beta hemolytic streptococci: Comparison of primary and purified plate testing. *J Pediatr* 89:576, 1976
8. Murray PR, Wold AD, Washington JA: Recovery of group A and non-group A beta hemolytic streptococci from throat swab specimens. *Mayo Clin Proc* 52:81, 1977

To the Editor:

With great interest, I read the article by Dr. Gillette, "Streptococcal Throat Infections in Family Practice" (*J Fam Pract* 6:251, 1978). Since sore throats are the fourth most common symptom seen in practice today,¹ the article was certainly timely and applicable. However, a few additional points seem warranted.

(1) Diagnosis and treatment on

Continued on page 438

Continued from page 436

"findings suggestive of streptococcal" pharyngitis is fraught with hazard.² (2) Treatment with "appropriate antibiotics" does not alter the course of the disease.³ (3) Even early treatment does not prevent acute glomerulonephritis.⁴ (4) Treatment can be delayed up to nine days without significantly increasing the risk of rheumatic heart disease,⁵ which is the major reason for treatment. (5) Failure to do a throat culture on a child who eventually developed rheumatic fever led to a successful malpractice suit.⁶ (6) Approximately 10 to 25 percent of asymptomatic children are normal carriers of Group A streptococci making routine culturing of family contacts almost uninterpretable. (7) Benzathine penicillin is, in fact, surpassed "for reliability in eradicating streptococci" by lincomycin.⁷ (8) It is true that one third of pediatric patients with pharyngitis are positive for B hemolytic streptococcus, but this incidence rapidly drops off to five percent in adults,⁸ making the premise of "7,000 cases of this illness" untenable. This is especially true if you consider that only 60 percent of positive cultures show detectable titer rise.²

With the above facts in mind, would it not be better for the practicing physician in an endemic situation to have throat cultures available for use, and withhold treatment until cultures are positive in the symptomatic patient? Even in this situation, overtreatment would probably be the rule since, once again, only 60 percent of these culture-positive patients demonstrate an antibody rise indicating actual infection.²

David A. Driggers,
Maj, USAF, MC
Department of Family Practice
David Grant USAF
Medical Center (SGHC)
Travis Air Force Base, California

References

1. National ambulatory medical care survey: 1973 summary: United States, May 1973-April 1974. In National Center for Health Statistics (Rockville, Md): Vital and Health Statistics, series 13, No. 21. DHEW publication No. (HRA) 76-1772. Government Printing Office, 1975
2. Wannamaker LW: Perplexity and precision in the diagnosis of streptococcal pharyngitis. *Am J Dis Child* 124:352, 1972
3. Denny FW, Wannamaker LW, Hahn EO: Comparative effects of penicillin, aureomycin and terramycin on streptococcal tonsillitis and pharyngitis. *Pediatrics* 11:7, 1953.
4. Wannamaker LW: Medical progress, differences between streptococcal disease of the throat and skin. *N Engl J Med* 282:23, 1971
5. Catanzaro JF, Stetson CA, Morris AJ, et al: The role of the streptococcus in the pathogenesis of rheumatic fever. *Am J Med* 17:749, 1954
6. Curran WJ: Glaucoma and streptococcal pharyngitis: Diagnostic practices and malpractice liability. *N Engl J Med* 291:508, 1974
7. Howie M: Treatment of Group A streptococcal pharyngitis in childhood. *Am J Dis Child* 121:477, 1971
8. Walsh BT, Bookheim WW, Johnson RC, et al: Recognition of streptococcal pharyngitis in adults. *Arch Intern Med* 135:1493, 1975

To the Editor:

As a family physician and a family practice educator who spends much of his time explaining to parents why their children don't need a "penicillin shot" and advising residents not to prescribe antibiotics unnecessarily, I read with interest Dr. Gillette's article (*J Fam Pract* 6:251, 1978) regarding streptococcal throat infections. Although I enjoyed the paper, I feel there were some important omissions and inaccuracies.

Continued on page 440

LOMOTIL®

brand of diphenoxylate hydrochloride with atropine sulfate

IMPORTANT INFORMATION: This is a Schedule V substance by Federal law; diphenoxylate HCl is chemically related to meperidine. In case of overdose or individual hypersensitivity, reactions similar to those after meperidine or morphine overdose may occur; treatment is similar to that for meperidine or morphine intoxication (prolonged and careful monitoring). Respiratory depression may recur in spite of an initial response to Narcan® (naloxone HCl) or may be evidenced as late as 30 hours after ingestion. LOMOTIL IS NOT AN INNOCUOUS DRUG AND DOSAGE RECOMMENDATIONS SHOULD BE STRICTLY ADHERED TO, ESPECIALLY IN CHILDREN. THIS MEDICATION SHOULD BE KEPT OUT OF REACH OF CHILDREN. Indications: Lomotil is effective as adjunctive therapy in the management of diarrhea.

Contraindications: In children less than 2 years, due to the decreased safety margin in younger age groups, in patients who are jaundiced or hypersensitive to diphenoxylate HCl or atropine, and in diarrhea associated with pseudomembranous enterocolitis occurring during, or up to several weeks following, treatment with antibiotics such as clindamycin (Cleocin®) or lincomycin (Lincocin®).

Warnings: Use with special caution in young children, because of variable response, and with extreme caution in patients with cirrhosis and other advanced hepatic disease or abnormal liver function tests, because of possible hepatic coma. Diphenoxylate HCl may potentiate the action of barbiturates, tranquilizers and alcohol. In theory, the concurrent use with monoamine oxidase inhibitors could precipitate hypertensive crisis. In severe dehydration or electrolyte imbalance, withhold Lomotil until corrective therapy has been initiated.

Usage in pregnancy: Weigh the potential benefits against possible risks before using during pregnancy, lactation or in women of childbearing age. Diphenoxylate HCl and atropine are secreted in the breast milk of nursing mothers.

Precautions: Addiction (dependency) to diphenoxylate HCl is theoretically possible at high dosage. Do not exceed recommended dosages. Administer with caution to patients receiving addicting drugs known to be addiction prone or having a history of drug abuse. The subtherapeutic amount of atropine is added to discourage deliberate overdosage; strictly observe contraindications, warnings and precautions for atropine; use with caution in children since signs of atropinism may occur even with the recommended dosage. Use with care in patients with acute ulcerative colitis and discontinue use if abdominal distention or other symptoms develop.

Adverse reactions: Atropine effects include dryness of skin and mucous membranes, flushing, hyperthermia, tachycardia and urinary retention. Other side effects with Lomotil include nausea, sedation, vomiting, swelling of the gums, abdominal discomfort, respiratory depression, numbness of the extremities, headache, dizziness, depression, malaise, drowsiness, coma, lethargy, anorexia, restlessness, euphoria, pruritus, angioneurotic edema, giant urticaria, paralytic ileus, and toxic megacolon.

Dosage and administration: Lomotil is contraindicated in children less than 2 years old. Use only Lomotil liquid for children 2 to 12 years old. For ages 2 to 5 years, 4 ml. (2 mg.) t.i.d.; 5 to 8 years, 4 ml. (2 mg.) q.i.d.; 8 to 12 years, 4 ml. (2 mg.) 5 times daily; adults, two tablets (5 mg.) t.i.d. to two tablets (5 mg.) q.i.d. or two regular teaspoonfuls (10 ml., 5 mg.) q.i.d. Maintenance dosage may be as low as one fourth of the initial dosage. Make downward dosage adjustment as soon as initial symptoms are controlled.

Overdosage: Keep the medication out of the reach of children since accidental overdosage may cause severe, even fatal, respiratory depression. Signs of overdosage include flushing, hyperthermia, tachycardia, lethargy or coma, hypotonic reflexes, nystagmus, pinpoint pupils and respiratory depression which may occur 12 to 30 hours after overdose. Evacuate stomach by lavage, establish a patent airway and, when necessary, assist respiration mechanically. A narcotic antagonist may be used in severe respiratory depression. Observation should extend over at least 48 hours.

Dosage forms: Tablets, 2.5 mg. of diphenoxylate HCl with 0.025 mg. of atropine sulfate. Liquid, 2.5 mg. of diphenoxylate HCl and 0.025 mg. of atropine sulfate per 5 ml. A plastic dropper calibrated in increments of ½ ml. (total capacity, 2 ml.) accompanies each 2-oz. bottle of Lomotil liquid.

SEARLE Searle & Co.
San Juan, Puerto Rico 00936

Address medical inquiries to:
G. D. Searle & Co.
Medical Communications Department
Box 5110
Chicago, Illinois 60680

Continued from page 438

First, Dr. Gillette states that "antibiotics give dramatic relief of symptoms and may well be justified on that basis alone if the patient is seen in the first or second day of the illness." This point is inaccurate at least, and controversial at best.^{1,2}

Though the author alludes to the difficulty in differentiating streptococcal and viral pharyngitis on clinical grounds, he goes on to state that "children with findings suggesting streptococcal infections are treated with oral penicillin—until the culture is reported." These statements seem somewhat conflictual to me. The worst cases of exudative pharyngitis and adenopathy in my experience have occurred in patients with mononucleosis.

Finally and most importantly are the questions of increasing the incidence of penicillin reactions and allergy, which the author mentioned, and the emergence of bacterial strains resistant to penicillin, which he ignored. We are all now having to deal with new enemies, such as ampicillin-resistant *Hemophilus influenzae* and penicillin-resistant gonococcus, treacherous organisms which owe their existence to the indiscriminate use of these antibiotics in the past. If we foster a precedent of prescribing penicillin before culture results are known to every child with a fever, cervical adenopathy, and exudative pharyngitis, how long will it be before the emergency of more resistant strains of staphylococci and gonococci, and even a penicillin-resistant streptococcus? I shall continue to await culture results before prescribing antibiotics, and I don't be-

lieve my patients will suffer for it.

E. Scott Medley, MD
Chief, Graduate Education
Department of Family Practice
Medical University of
South Carolina
Charleston, South Carolina

References

1. Wannamaker LW: A penicillin shot without culturing the child's throat. *JAMA* 235:913, 1976
2. Prevention of rheumatic fever. Report of the Committee on Rheumatic Fever, Council on Rheumatic Fever and Congenital Heart Disease of the American Heart Association. *Circulation* 43:983, 1971

The preceding letters were referred to Dr. Gillette who responds as follows:

A response to the issues raised by Drs. Medley, Shank and Driggers should start by noting what the paper in question does and does not say about various ways of managing streptococcal throat infections. First, under "Comment," it is pointed out that there are three possible approaches: antibiotics without cultures, antibiotics after positive cultures, or no antibiotics. No recommendations are made in this part of the paper. Next comes the report of a poll done in an effort to determine how family physicians actually manage such problems. Finally, my personal recommendations are outlined in a separate section. Please note that the only population group for whom I do not recommend cultures is adults with no history of rheumatic fever and with current clinical findings suggestive of a viral infection.

Continued on page 444

SINGLE-ENTITY CHOLEDYL® (OXTRIPHYLLINE)

CAUTION: Federal law prohibits dispensing without prescription.
Description. Each partially enteric coated tablet contains 200 mg or 100 mg oxtriphylline. NOTE: 100 mg oxtriphylline is equivalent to 64 mg anhydrous theophylline.

Indications. Cholelyl (oxtriphylline) is indicated for relief of acute bronchial asthma and for reversible bronchospasm associated with chronic bronchitis and emphysema.

Warning. Use in pregnancy—animal studies revealed no evidence of teratogenic potential. Safety in human pregnancy has not been established; use during lactation or in patients who are or who may become pregnant requires that the potential benefits of the drug be weighed against its possible hazards to the mother and child.

Precautions. Concurrent use of other xanthine-containing preparations may lead to adverse reactions, particularly CNS stimulation in children.

Adverse Reactions. Gastric distress and, occasionally, palpitation and CNS stimulation have been reported.

Dosage. Average adult dosage: Tablets—200 mg, 4 times a day. *Dosage should be individualized.*

Supplied. 200 mg, yellow, partially enteric coated tablets in bottles of 100 (N 0047-0211-51) and 1000 (N 0047-0211-60); Unit Dose—10 x 10 strips (N 0047-0211-11); 100 mg red, partially enteric coated tablets in bottles of 100 (N 0047-0210-51). STORE BETWEEN 59° and 86°F (15° and 30°C).

Toxicity. Oxtriphylline, aminophylline and caffeine appear to be more toxic to newborn than to adult rats. No teratogenic effects have been seen.

Full information is available on request.

CH-GP-83



WARNER/CHILCOTT
 Division, Warner-Lambert Company
 Morris Plains, New Jersey 07950

VALIUM®
(diazepam)

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome; convulsive disorders (not for sole therapy).

The effectiveness of Valium (diazepam) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or over-sedation.

Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice, periodic blood counts and liver function tests advisable during long-term therapy.

Dosage: Individualize for maximum beneficial effect. *Adults:* Tension, anxiety and psychoneurotic states, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).

Supplied: Valium® (diazepam) Tablets, 2 mg, 5 mg and 10 mg—bottles of 100 and 500; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10; Prescription Paks of 50, available singly and in trays of 10.

Roche Laboratories
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

LETTERS TO THE EDITOR

Continued from page 440

All three writers questioned the assertion that the administration of appropriate antibiotics early in the course of streptococcal throat infections gives relief of symptoms. Drs. Shank and Driggers have made reference to papers on this topic from the 1950s. I have read both papers and find that they clearly support the conclusion that administration of appropriate antibiotics early in the course of streptococcal throat infections does indeed hasten the resolution of symptoms; see also Peebles, 1971.¹

All three writers challenged my suggestion that it may be appropriate to administer oral penicillin or erythromycin to children with clinical findings suggestive of streptococcal infections during the interval between initial examination and reporting of throat culture findings. I am not aware of any solid evidence that such management has contributed to antibiotic resistance as Dr. Medley suggests or that it is "fraught with hazard" as Dr. Driggers indicates. There is an additional factor to be considered: Clinical decisions often have to be made at the end of Friday afternoon office hours or immediately before a holiday. The clinician who is willing to come in on a Sunday, read the culture, and contact the family for treatment is much to be admired, but he probably is a rara avis in most practice settings.

Dr. Driggers asserts that "benzathine penicillin is, in fact, surpassed . . . by lincomycin." The point is irrelevant since lincomycin's drawbacks make it unsuitable for use in cases of strep throat.

Drs. Shank and Driggers challenge the extrapolations made from the work of Marsland et al, attempting to project the number of cases of streptococcal throat infections that occurred in the course of the "Virginia Study." They are correct. The extrapolation was weak in the absence of age-specific data.

Dr. Shank disagrees on the value of bacitracin discs applied to the original culture plate. His reference 8 is not applicable since that paper refers to the identification of Group A streptococci by the fluorescent antibody technique. His reference is relevant, although certain aspects of my technique (particularly placing the bacitracin disc at the junction of the second and third swabbings) are designed to minimize this problem. Further work is needed in this area.

Dr. Driggers observes that "treatment can be delayed up to nine days without significantly increasing the risk of rheumatic heart disease, which is the major reason for treatment." His statement is generally correct, although nine days appears to be a point on a curve which has, to my knowledge, been only vaguely defined.

Robert D. Gillette, MD
Director

Riverside Family Practice Center
Department of Family Medicine
Medical College of Ohio
Toledo, Ohio

References

1. Peebles TC: Identification and treatment of group A beta-hemolytic streptococcal infections. *Pediatr Clin North Am* 18:145, 1971