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.

ASEPTIC MENINGITIS AND TRIMETHOPRIM-SULFAMETHOXAZOLE

To the Editor:

Published case reports[1,2] have incriminated trimethoprim-sulfamethoxazole as a cause of recurrent aseptic meningitis. We recently saw a patient who had two episodes of meningitis a month apart, both following doses of Septra.

A 28-year-old black woman was admitted because of a severe frontal headache of one day's duration. She had been treated with a seven-day course of Septra for a urinary tract infection approximately two weeks before without adverse effect. There was no history of sickle cell disease, collagen vascular disease, head trauma, sinusitis, or respiratory infection. The day prior to admission she developed a backache and took a dose of Septra. A severe headache developed shortly thereafter prompting an emergency room visit that night; there she was treated for tension headache. She was advised to continue the Septra because of six to eight white blood cells per high-power field (WBC/HPF) in her urine and a white cell count of 13.3 $\times$ $10^3/\mu L$, but returned to the clinic the next morning with an unrelenting headache, stiff neck, and a temperature of 99.4°F.

Upon admission, urinalysis and serum chemistries were unremarkable. Spinal tap revealed a white cell count of 166/μL with 72 percent polymorphonuclear cells and normal protein and glucose. A computed tomographic head scan, sinus films, immunoelectrophoresis studies of spinal fluids, and a tuberculosis skin test were negative. She was begun on intravenous ampicillin, which was stopped after cultures of spinal fluid, blood, and urine were negative. After observation off antibiotics for 48 hours, the patient was discharged free of symptoms.

One month later, she re-presented with an identical severe headache, neck stiffness, and temperature of 101.4°F that began shortly after taking another dose of Septra. White cell count was 16.5 $\times$ $10^3/\mu L$ and spinal fluid contained a white cell count of 1,283/μL, with 80 percent polymorphonuclear cells, normal protein and glucose, and negative cultures. She was treated empirically for ten days with intravenous penicillin because of the history of recurrent meningitis. Prior to discharge, the patient refused a rechallenge test with Septra.

The two prior cases[1,2] of meningitis associated with trimethoprim-sulfamethoxazole had the extra evidence of a positive rechallenge test, which unfortunately our patient would not allow. Nevertheless, the close association of these two episodes of meningitis to ingestion of trimethoprim-sulfa-methoxazole, coupled with a known initial exposure to the drug that was without incident, suggests the possibility of an unusual hypersensitivity reaction and adds to the previous observations.

Physicians should be aware of this possible association so that a definite etiological mechanism can be explored with future patients in similar situations.

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OFFICE AUDIOMETRY

To the Editor:

Having recently surveyed audiometry in US family practice residency programs, I was pleased to see your journal publish an article on audiometry *(Snyder J: Office audiometry. J Fam Pract 1984; 19:535-548)*. Family practice literature had previously suffered a paucity of up-to-date guidelines for office hearing testing. Our residency survey underscored the need for better and more uniform instruction of residents in audiometry.

Our survey questionnaire was mailed to all US family practice residencies in February of 1983, and 187 completed responses were obtained. Analysis of the results revealed three problem areas: (1) selection of patients, (2) audiometry equipment in use, and (3) training of residents and others performing audiometry.

Snyder was somewhat vague in

Continued on page 316

Continued from page 314

his recommendations as to which patients should receive audiometry in the setting of the family physician's office. Our survey revealed inconsistency in the selection of patients for audiometry (Table 1). Usually residents recommended audiometry on a case-by-case basis using ill-defined guidelines.

Snyder concluded his article with cautious recommendations for hearing testing by family physicians, "screening or threshold measurement for AC (air conduction) and BC (bone conduction) are reasonable goals. . . ." Our survey revealed that 25 percent of residencies had no audiometer at all and that 32 percent of those with audiometers used small screening instruments incapable of measuring thresholds. Thirty-five percent were capable of measuring bone conduction; however, others[1] have suggested that BC is best tested by an audiologist. Fifty-six percent had had their audiometer calibrated within the past year. Twenty-two percent of family practice residencies utilized tympanometers. It is apparent that our family practice residents are being exposed to inconsistently adequate testing equipment.

The most critical element in pure tone audiometry is the tester, because he or she can easily introduce errors.[2] Audiologists performed audiometry in 31 percent of family practice residencies, while nurses performed audiometry in the majority of programs. Of these nurses, our survey revealed that only 20 percent had had any type of formal training in audiometry. More important, 48 percent of family practice residencies did not include hearing testing or audiometry in their curriculum.

Physicians are responsible for supervising in-office audiometry and for monitoring the various sources of error.[3] While it may be possible to study Snyder's article and learn office audiometry adequately, my experience with residents indicates that physicians are quite interested in the results of audiometry, but they are seldom motivated to learn for themselves about sources of error or how the test is performed. Our residency programs, if not most family physicians, should pay more attention to the teaching and performance of audiometry.

TABLE 1. WHICH PATIENTS RECEIVE AUDIOGRAMS IN FAMILY PRACTICE RESIDENCY OUTPATIENT DEPARTMENTS?

	Percentage of Respondents
All new patients	1
All patients with any ear complaint	16
All patients with hearing complaints	72
Patients with dizziness	40
Patients with ear infections	30
Patients with ear infection follow-up appointments	41
Preschool physical examination	62

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Continued on page 318

Continued from page 316

COMPUTERS AND LITERATURE SEARCH

To the Editor:

Although it has been possible to conduct a search of the medical literature using a computer since 1971, there still remains some confusion regarding computerized literature searching. In your special issue on computers, the authors of the article "Educational Applications of Computers" make several misleading statements regarding computer searching.[1]

The authors stated that "catalogues of published articles" are accessible by computer. A more accurate description of on-line searching is that one is actually searching a database containing references to journal articles that can be accessed by author, title, journal title, subject heading, or text words found in the title or abstract.

Although the authors gave the impression that MEDLINE and MEDLARS are two distinct databases, MEDLINE is only one of the 17 databases available through the MEDLARS system, which is based at the National Library of Medicine (NLM) in Bethesda, Maryland.* MEDLARS stands for Medical Literature Analysis and Retrieval System. MEDLINE is the most well-known database for medicine. It contains over 3,500,000 references to biomedical journal articles published since 1966.

NLM is not the only vendor that offers access to the medical literature. Several other on-line database vendors buy the MEDLINE tapes from NLM and load them onto their own computerized systems. These vendors also offer databases on a variety of subjects not available through the MEDLARS system.

At the present time, most computerized literature searches on MEDLINE are performed by a medical librarian who has received MEDLINE training approved by NLM. However, there are three new services available to the individual who would like to do his or her own searching: BRS/After Dark, DIALOG/Knowledge Index, and ISI/Sci-mate.** These services are user friendly and require no training in database searching techniques. Since these services are designed for the untrained searcher, there are limitations in retrieval, and the same search done by a medical librarian may yield more relevant information. However, the National Library of Medicine has recently started to offer MEDLINE training courses (previously limited to librarians) at various locations throughout the country.

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BRS, 1200 Route 7 Latham, NY 12110 (800-833-4707)

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