

Hemophilus influenzae meningitis developed anemia and/or absolute neutropenia while on chloramphenicol therapy. One patient with pneumococcal meningitis developed anemia while on triple antibiotic therapy. In all instances the anemia and neutropenia resolved spontaneously with cessation of chloramphenicol therapy.

SUMMARY AND CONCLUSIONS

During 1963-1965, strains of *H. influenzae*, *D. pneumoniae*, and *N. meningitidis* isolated from patients with purulent meningitis were tested for in vitro sensitivity to ampicillin, chloramphenicol, penicillin G, and tetracycline. These studies indicated that, in vitro, ampicillin was as effective or slightly more effective than chloramphenicol, penicillin G, and tetracycline against *H. influenzae* and was equally effective in vitro as penicillin G against *D. pneumoniae* and *N. meningitidis*.

Simultaneous serum and cerebrospinal fluid ampicillin levels were determined in 8 patients with no evidence of meningeal disease, 10 patients with viral meningitis or encephalitis, and 20 patients with bacterial meningitis. High blood levels were achieved in all three groups. The drug was detectable in the cerebrospinal fluid of patients with normal meninges as well as patients with inflamed meninges. The mean cerebrospinal fluid/serum ratio, however, was significantly higher in patients with bacterial meningitis than in those with no evidence of meningeal disease.

Twenty-eight patients admitted consecutively to Ben Taub General Hospital from July, 1964, to April, 1965, with the diagnosis of acute bacterial meningitis received single drug therapy with ampicillin (study group). Twenty-five patients admitted from April, 1965, to July, 1965, received conventional antibiotic therapy and served as a matched control group. In order to establish a base line of mortality and morbidity of bacterial meningitis in our hospital, the charts of 190 children (2 months to 14 years of age) who received conventional antibiotic therapy for bacterial meningitis from 1959 through 1963 were reviewed (5 year review group).

The mortality rate and the incidence of severe neurologic sequelae were not significantly different in the three groups of patients studied. The incidence of subdural effusion was approximately equal in the three groups of patients, and the incidence of minor neurologic sequelae was approximately the same in the study and matched control groups.

The rapidity of response to therapy as measured by: (1) the duration of fever after the institution of antibiotic treatment in the three groups studied and (2) the return of the cerebrospinal fluid values to normal in the study and matched control groups indicated no significant difference between therapy with ampicillin and conventional drugs.

No serious drug reactions occurred in the ampicillin-treated patients. Eosinophilia, diarrhea, or slight elevation of the SGOT were encountered in a few patients but these often subsided without cessation of therapy. Five patients in the matched control group developed anemia and/or absolute neutropenia while on chloramphenicol therapy. In all instances, the anemia and neutropenia resolved with cessation of chloramphenicol therapy.

Ampicillin appears to be an excellent drug for the treatment of acute bacterial meningitis due to *D. pneumoniae*, *N. meningitidis*, and *H. influenzae* in children. It is as safe and as effective as conventional triple therapy and in addition has the following advantages: (1) simplicity of administration, and (2) apparent freedom from hematologic and renal complications encountered with chloramphenicol and sulfonamides, respectively.

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