

## Use of Corticosteroids in Bacterial Meningitis

Chugh and Patwari(1) have helped bring into focus the considerable controversy in the use of steroids as adjunctive therapy in acute bacterial meningitis (ABM). It is agreed that several unique problems exist in the management of ABM in our country. Patients often get referred late and after they have received one or more antibiotics. Microbiological evidence of the etiologic organism is invariably not available in the first 24 hours when adjunctive steroid therapy is likely to be most beneficial. Often, financial constraints restrict the choice of antibiotics to crystalline penicillin alone or in combination with chloromycetin. *Hemophilus influenzae* is a relatively infrequent isolate in culture documented cases. The authors have, however, failed to lay down any practical guidelines for the treating physician. The definite beneficial effects demonstrated in recent studies has resulted in increasing acceptability and wider use of steroids as adjunctive therapy in ABM(2). Although we agree that it would be premature and illogical to use steroids in all cases of suspected pyogenic meningitis, we would venture to recommend its use in the following situations:

1. Presence of features of raised intracranial tension (headache, repeated vomiting and papilledema) and/or radiological evidence of gross cerebral edema.

2. Children having severe alterations in sensorium.

3. In mild cases who present early without history of prior antibiotic therapy and where third generation cephalosporins constitute the therapeutic regime.

In such instances, dexamethasone needs to be administered in conjunction with or just before antimicrobial therapy in order to decrease inflammatory response in the subarachnoid space(3). The apprehension that the benefits of adjunctive steroid therapy have been observed mainly in *H. influenzae* meningitis treated with third generation cephalosporins has been dispelled to a considerable extent by Girgis *et al.*(4). They have demonstrated a significant decrease in the case fatality rate, neurological sequense and hearing loss in the steroid treated group. Moreover, the primary antibiotic therapy in their cases was intramuscular ampicillin and chloramphenicol.

We echo the need for well-designed, controlled trials to evaluate the role of adjunctive steroids in ABM in our country. But while awaiting the results of such studies, we must take advantage of the experience that has already accrued and prescribe dexamethasone in the situations cited earlier. The likely benefits outweigh the potential risks of adjunctive dexamethasone therapy.

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## REFERENCES

1. Chugh K, Patwari AK. Controversy: Use of corticosteroids in bacterial meningitis. *Indian Pediatr* 1990, 27: 533-538.
2. Word BM, Klein JO. Therapy of bacterial sepsis and meningitis in infants and children: 1989 poll of directions of programs in pediatric infectious diseases. *Pediatr Infect Dis J* 1989, 8: 635-637.
3. Turbel AR, Wispelivey B, Sched WM. Bacterial meningitis: Recent advances in pathophysiology and treatment. *Ann Int Med* 1990, 110: 610-623.
4. Girgis NL, Zoheir F, Isis MA *et al.* Dexamethasone treatment for bacterial meningitis in children and adults. *Pediatr Infect Dis J* 1989, 8: 848-851.

## Reply

We appear to be moving from a stage of 'corticosteroids are contraindicated in acute pyogenic meningitis' to 'may be given' and now to 'should be given'. However, the third stage has not really arrived yet. It is being widely acknowledged that further studies are required to make definite recommendations on this subject. The limited data that is available has been interpreted in different ways by various workers. Thus, while our views are at variance to the views being expressed by Gulati *et al.*, it is interesting to know the recommendation made by some other reviewers.

1. Smith(1) in February, 1989 stated that at the bedside he would administer corticosteroids only to a severely ill patient.

2. McCracken and Lebel(2) in March, 1989 emphasized that favorable effects of dexamethasone (DM) therapy have been

observed only in patients of *H. influenzae*, meningitis; too few patients with meningococcal or pneumococcal meningitis have been treated to assess efficacy. The trial by Girgis *et al.*(3) was reported after these comments in August 1989. In this study there were 56 patients with *H. influenzae* infection, 106 with pneumococcal infection and 267 with meningococcal infection. However, the antibiotic therapy included chloramphenicol given intramuscularly. This drug is known to be not well absorbed when given by this route. Hence, in our opinion the results of this study should be interpreted with caution. McCracken and Lebel recommend DM in all cases of bacterial meningitis, including the mild cases.

3. Kaplan(4) in March, 1989 examined the issue of making dexamethasone as a routine therapy in children with bacterial meningitis. He concluded that it would be premature to recommend DM therapy routinely for children with bacterial meningitis.

4. McCracken(5) writing on the current management of bacterial meningitis in December, 1989 opined that routine use of DM in bacterial meningitis is problematic and the decision should be based on the physician's assessment of the published data.

5. The question of DM therapy for bacterial meningitis in children has also been scrutinized by the Committee on Infectious Diseases 1989 to 1990 of the American Academy of Pediatrics, and their recommendations published in July 1990(6). The report states that DM reduces the risk of deafness after *H. influenzae* meningitis, although additional placebo-controlled studies are required before unqualified recommendations can be made. The utility of dexamethasone in treatment of pneumococcal or meningococcal meningitis is not