

## SHORT COMMUNICATION

## Treatment of Meningococcal Disease, is Longer Better?

Invasive meningococcal disease (septicaemia and/or meningitis) remains one of the major causes of death in children. Recent studies suggest that the prevalence of this condition is increasing. The role of intensive care in the acutely ill child is increasingly being recognised. There have been numerous studies evaluating the use of monoclonal antibodies and other supportive agents<sup>1</sup>. There have however been few studies evaluating the duration of antimicrobial therapy for bacterial meningitis. Recent recommendations include treatment for seven days. While accepting that meningococcal septicaemia/meningitis is a life threatening condition, it is well recognised that death is most likely in the first 48 hours of treatment.

We are aware of only two clinical trials that have evaluated the duration of therapy<sup>2,3</sup>. One was a prospective study evaluating four days treatment with intravenous benzylpenicillin for adults and children with meningococcal meningitis<sup>2</sup>. This was a prospective study of 50 consecutive patients. Two patients died within the first 36 hours of therapy and one elderly patient developed aspiration pneumonia requiring penicillin therapy beyond the four days. The remaining 47 patients were cured and no relapses occurred. Another study evaluating the use of ceftriaxone for children with bacterial meningitis randomised 32 children with meningococcal meningitis to either four or eight days treatment<sup>3</sup>. The duration of therapy had no effect on outcome. Neurological sequelae were related to the severity of the illness on presentation.

The meningococcus is highly sensitive to antimicrobial agents including benzylpenicillin, cefotaxime and ceftriaxone all of which are used successfully in treatment. A small percentage of isolates show intermediate susceptibility to penicillin but this does not appear to result in treatment failure and benzylpenicillin remains the treatment of choice for invasive meningococcal disease<sup>4</sup>. The over treatment of bacterial meningitis has been eloquently described by Radetsky and in particular the desire to treat

conditions for 7,10,14 or 21 days<sup>5</sup>. Complications, in particular subdural effusion, are uncommon in meningococcal disease<sup>6</sup>. In an era of evidence based medicine, we feel there is no clinical indication for the routine treatment of all children with meningococcal meningitis for more than 5 days.

We currently use benzylpenicillin and cefotaxime for children with suspected meningococcal septicaemia/meningitis. Once cultures confirm the presence of the organism from either blood or CSF and sensitivities are available we continue with intravenous benzylpenicillin alone. Benzylpenicillin is given in high doses intravenously for 5 days, as oral penicillin is poorly absorbed. The advantages of using a narrow spectrum antibiotic such as benzylpenicillin are that we are not encouraging the development of resistant organisms, costs are kept to a minimum and also adverse drug reactions are minimised<sup>7</sup>.

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### References

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