bacterial meningitis

Criteria for CT prior to lumbar puncture

therapy based on presumptive gram stain identification

empirical therapy

bacterial meningitis created by Paul Young 02/10/07

specific antimicrobial therapy

therapy based on presumptive gram stain identification

duration of therapy

the role of dexamethasone

Neonates:
- There are insufficient data to make a recommendation on the use of adjunctive dexamethasone in neonates with bacterial meningitis.

Children:
- Adjunctive dexamethasone (0.15 mg/kg every 6 h for 2–4 days) has confirmed benefit for H. influenzae type b meningitis and, if commenced with or before antimicrobial therapy, suggested benefit for pneumococcal meningitis in children. Evidence of clinical benefit was greatest for hearing outcomes.

Adults:
- Level one evidence supports the use of dexamethasone (0.15 mg/kg q6h for 2–4 days with the first dose administered 10–20 min before, or at least concomitant with, the first dose of antimicrobial therapy) in adults with suspected or proven pneumococcal meningitis.

- Dexamethasone should only be continued if the CSF Gram stain reveals gram-positive diplococci, or if blood or CSF cultures are positive for S. pneumoniae.

- Adjunctive dexamethasone should not be given to adult patients who have already received antimicrobial therapy, because administration of dexamethasone in this circumstance is unlikely to improve patient outcome.

- The data are inadequate to recommend adjunctive dexamethasone to adults with meningitis caused by other bacterial pathogens.

- Concerns have been raised about whether use of adjunctive dexamethasone may be harmful in patients with pneumococcal meningitis caused by highly penicillin- or cephalosporin-resistant strains; these patients may require antimicrobial therapy with vancomycin, and the diminished inflammatory response induced by dexamethasone might reduce CSF vancomycin penetration and delay CSF sterilization. This finding has been observed in experimental animal models of resistant pneumococcal meningitis.