Incorporates NICE Bacterial Meningitis and Meningococcal Septicaemia Guideline CG102. Distributed in partnership with NICE

Management of Bacterial Meningitis in Children and Young People

Infectious disease specialist.

Duration may be dictated by clinical response – unless directed otherwise by antibiotic sensitivities.

Vancomycin if resistant strain.

Antibiotics for confirmed meningitis

- IV Cefotaxime or Ceftriaxone unless contraindicated
- DO NOT DELAY ANTIBIOTICS

Disease Algorithm

www.meningitis.org

www.nice.org.uk/

5s guideline CG160

Empiric antibiotics for suspected meningitis

- IV Cefotaxime + either Amoxicillin or Ampicillin (can replace Cefotaxime with Ceftriaxone if no contraindication)
- DO NOT DELAY ANTIBIOTICS

Steroids: Dexamethasone 0.15 mg/kg to a max dose of 10 mg, qds x 4 days for children ≥ 3 months old.

Empiric antibiotics for suspected meningitis

- Group B Strep: IV Cefotaxime for ≥ 21 days (unless alternative directed by local sensitivities)
- L monocytogenes: IV Amoxicillin or Ampicillin for 21 days in total, plus IV Gentamicin for at least the first 7 days
- Gram-negative bacilli: IV Cefotaxime for ≥ 21 days (unless alternative directed by local antimicrobial resistance patterns or specific sensitivities)

Reduced or fluctuating conscious level or focal neurological signs?

- Full-volume maintenance fluids: enteral feeds if tolerated or isotonic IV fluids e.g. 0.9% Saline or 0.9% Saline with 5% Glucose
- Do not restrict fluids unless there is evidence of increased anti-diuretic hormone secretion or RICP
- Monitor fluid administration, urine output, electrolytes and blood glucose
- See Meningococcal Disease Algorithm to treat seizures.

BM1 Diagnostic and other laboratory tests:

- Take bloods for blood gas (bicarb, base deficit), Lactate, Glucose, FBC, U&E, Ca++, Mg++, PO4, Clotting, CRP, Blood cultures. Whole blood ( EDTA) for PCR, X-match. Take Throat swab. If limited blood volume, prioritise blood lactate, glucose, electrolytes, FBC, clotting.

BM2 Contraindications to Lumbar Puncture

- Clinical or radiological signs of raised intracranial pressure
- Shock
- After convulsions until stabilised
- Coagulation abnormalities

BM3 Contraindications to Ceftriaxone

Premature neonates with corrected gestational age < 41 weeks and other neonates < 1 month old, particularly those with jaundice, hypoalbuminaemia, or acidosis, or receiving concomitant treatment with intravenous calcium.

BM4 Indications for CT scan in children with suspected bacterial meningitis

CT scan cannot reliably detect raised intracranial pressure. This should be assessed clinically.

Perform a CT scan to detect other intracranial pathologies if GCS < 8 or focal neurological signs in the absence of an explanation for the clinical features.

Do not delay treatment to undertake a CT scan.

BM5 Indications for tracheal intubation and mechanical ventilation

Threatened or actual loss of airway patency (e.g. GCS < 9, response to pain only).

- Need for any form of assisted ventilation e.g. bag-mask ventilation.
- Clinical observation of increased work of breathing
- Hypoventilation or Apnoea
- Features of respiratory failure, including - Irregular respiration (e.g. Cheyne-Stokes breathing)
- Hypoxia (saturation <84% in air, PaO2 < 13 kPa or 9.5mmHg, hypercapnia (PaCO2 > 6 kPa or 45 mmHg)

BM6 Repeat LP in neonates after starting treatment if:

- Signs of raised intracranial pressure
- Impaired mental status
- GCS drop of > 3, or score < 9, or fluctuation in conscious level
- Moribund state
- Control of intractable seizures
- Need for stabilisation for brain imaging or for transfer to PICU

BM7 Long-term management:

Before discharge consider need for after care, discuss potential long-term effects with parents, arrange hearing test. Refer children with severe or profound deafness for cochlear implant assessment ASAP. Use MRF discharge checklist www.meningitis.org/assets/s/69764. Provide ‘Your Guide’ and direct to meningitis support organisations www.meningitis.org/recovery or www.meningitisline.org/recovery. Offer further care on discharge as needed. Paediatrician to review child with results of their hearing test 4-6 weeks after discharge from hospital considering all potential morbidity and offer referral, inform GP, health visitor or school nurse.

BM8 Long-term management: Edition 2A

Based on NICE CG102 www.nice.org.uk/guidance/CG102

M Levin, I Maconochie, S McQueen, P Monk, S Nadel, N Ninis, MP Richardson, MJ Thompson, AM Thomson, D Turner.

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Notify public health, prophylaxis see www.meningococcal disease algorithm; Long-term management

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