Treatment & Management of eye complications

Medical therapy for eye complications due to Leprosy- use of the topical antibiotics and topical steroids. It is strongly recommended that an ophthalmologist and a trained leprologist, if available, be included in the treatment of Hansen disease with ocular manifestations.

2.1.5 Meningitis

ICD10 CODES: A39.0 (MENINGOCOCCAL), G00, G01, G02

Meningitis is acute inflammation of the meninges (the membranes covering the brain). Bacterial meningitis is a notifiable disease.

Causative organisms

Most commonly bacterial: Streptococcus pneumoniae, Haemophilus influenzae type b (mainly in young children), Neisseria meningitidis, Enteric bacilli

- Viral (HSV, enteroviruses, HIV, VZV etc)
- Cryptococcus neoformans (in the immune-suppressed)
- Mycobacterium tuberculosis

Clinical features

- Rapid onset of fever
- Severe headache and neck stiffness or pain
- PhotophobiaHaemorrhagic rash (N.meningitidis infection)
- Convulsions, altered mental state, confusion, coma
- In mycobacterial and cryptococcal meningitis, the clinical presentation can be sub-acute , over a period of several days or 1-2 weeks

Differential diagnosis

- Brain abscess
- Space-occupying lesions in the brain
- Drug reactions or intoxications

Investigations

- CSF: usually cloudy if bacterial, clear if viral. Analyse for white cell count and type, protein, sugar, Indian-ink staining (for Cryptococcus), gram stain, culture and sensitivity
- Blood: For serological studies and full blood count
- Blood: for culture and sensitivity
- Chest X-ray and ultrasound to look for possible primary site

Management

Because of the potential severity of the disease, refer all patients to hospital after pre-referral dose of antibiotic. Carry out lumbar puncture promptly and initiate empirical antibiotic regimen

Treatment depends on whether the causative organisms are already identified or not.

TREATMENT	LOC
General measures ❑ IV fluids ❑ Control of temperature ❑ Nutrition support (NGT if necessary) **Causative organisms not yet identified** ❑ Start initial appropriate empirical broad spectrum therapy - Ceftriaxone 2 g IV or IM every 12 hours for 10-14 days	HC4

TREATMENT	LOC
- Child: 100 mg/kg daily dose given as above - Change to cheaper effective antibiotic if and when C&S results become available **If ceftriaxone not available/not improving** ❑ Use chloramphenicol 1 g IV every 6 hours for up to 14 days (use IM if IV not possible) **Child: 25 mg/kg per dose** **Once clinical improvement occurs** - Change to 500-750 mg orally every 6 hours to complete the course; **Child: 25 mg/kg per dose**	
Causative organisms identified **Streptococcus pneumoniae (10-14 day course; up to 21 days in severe case)** ❑ Benzylpenicillin 3-4 MU IV or IM every 4 hours **Child: 100,000 IU/kg per dose** ❑ Or ceftriaxone 2 g IV or IM every 12 hours Child: 100 mg/kg daily dose	H
Haemophilus influenzae (10 day course) ❑ Ceftriaxone 2 g IV or IM every 12 hours **Child: 100 mg/kg per dose** ❑ Only if the isolate is reported to be susceptible to the particular drug ❑ Change to chloramphenicol 1 g IV every 6 hours **Child: 25 mg/kg per dose** ❑ Or ampicillin 2-3 g IV every 4-6 hours **Child: 50 mg/kg per dose**	H

TREATMENT	LOC
Neisseria meningitidis (up to 14 day course) ❑ Benzylpenicillin IV 5-6 MU every 6 hours **Child: 100,000-150,000 IU/kg every 6 hours** ❑ Or Ceftriaxone 2 g IV or IM every 12 hours **Child: 100 mg/kg daily dose** ❑ Or Chloramphenicol 1 g IV every 6 hours (IM if IV not possible) **Child: 25 mg/kg IV per dose** **Once clinical improvement occurs** - Change to chloramphenical 500-750 mg orally every 6 hours to complete the course **Child: 25 mg/kg per dose** **Note: Consider prophylaxis of close contacts (especially children < 5 years):** ❑ Adults and children >12 years: Ciprofloxacin 500 mg single dose	
Child <12 yrs: 10 mg/kg single dose ❑ Alternative (e.g. in pregnancy): ceftriaxone 250 mg IM single dose **Child < 12 yrs: 150 mg IM single dose**	H
Listeria monocytogenes (at least 3 weeks course) ❑ Common cause of meningitis in neonates and immunosuppressed adults Benzylpenicillin 3 MU IV or IM every 4 hours ❑ Or ampicillin 3 g IV every 6 hours **Notes** ▪ Both medicines are equally effective ▪ Therapy may need to be prolonged for up to 6 weeks in some patients	H