



## Neonatal sepsis

### A. TREAT FOR SEPSIS IF

Breathing difficulty (RR>60/min) AND Severe chest drawing OR grunting

OR

ANY TWO of the FOLLOWING SIGNS ARE PRESENT:

- 1) Fast breathing ( RR >60/min )
- 2) Convulsions
- 3) Unconscious or Lethargic (no spontaneous movements)
- 4) Abnormal body temperature (axillary temperature <36.5° or >37.5° C)
- 5) No feeding or feeding poor after having fed well
- 6) Abdominal distension and/or vomiting

### B. WHEN AGE of the baby is 3 DAYS or less, TREAT IF:

- ✓ Any of the following two maternal risk factor present: maternal fever, foul-smelling or purulent amniotic fluid, prolonged rupture of membranes >18 hours
- ✓ Reassess after 2 days and treatment is continued only if there are signs of sepsis (or positive blood culture)

### C. Suspect meningitis if the baby has convulsions, opisthotonus, unconsciousness, lethargy or a bulging anterior fontanel

- ✓ Treat seizures, if present (see STP on Seizure)
- ✓ If possible, perform a lumbar puncture and send the cerebrospinal fluid (CSF) to the laboratory for cell count, Gram stain, culture and sensitivity.
- ✓ Begin treatment for meningitis while awaiting for laboratory confirmation

## MANAGEMENT

### *Sepsis (when meningitis is not suspected)*

- ✓ Take a blood sample, and send it to the laboratory for hemoglobin & hematocrit (to decide the need for blood transfusion), peripheral blood smear (to confirm sepsis), and culture and sensitivity, when possible
- ✓ Treat the baby with intravenous (IV) antibiotics: ampicillin (or penicillin) and gentamicin according to baby's age and weight (See Panel) for at least 10 days
- ✓ If a baby with sepsis is at greater risk of staphylococcus infection (e.g. extensive skin pustules, abscess, or omphalitis in addition to signs of sepsis), they should be given cloxacillin and gentamicin instead of ampicillin and gentamicin.
- ✓ Assess the baby's condition every six hours for signs of improvement:
  - ✚ If baby's condition is improving after 72 hours of treatment with antibiotics:  
Continue ampicillin and gentamicin to complete 10 days of treatment
  - ✚ If the baby's condition is NOT improving after 72 hours of treatment with antibiotics:
    - If the blood culture is positive, change antibiotics according to the results of the culture and sensitivity, and give new antibiotics for 10 days
    - If the blood culture is not possible or the organism cannot be identified:  
discontinue ampicillin. Give IV cefotaxime, in addition to gentamicin, for 10 days.

### *Meningitis*

- ✓ Give IV ampicillin and IV gentamicin according to the baby's age and weight (Panel). Remember than for meningitis, higher dose of ampicillin is given
- ✓ If possible, confirm the diagnosis of meningitis:
  - ✚ White blood cell count in the CSF is 20/mm<sup>3</sup> or more if the baby is less than seven days old; or 10/mm<sup>3</sup> or more if the baby is seven days or older; OR
  - ✚ Culture or Gram stain of the CSF is positive.
- ✓ If the baby's condition is improving after 48 hours of treatment with antibiotics, continue the antibiotics for 14 days or for seven days after signs of improvement are first noted, whichever is longer.

**Standard Treatment Protocol for management of common newborn conditions in small hospitals  
(Adapted from WHO Guidelines)**

- ✓ If the baby's condition is not improving after 48 hours of treatment, change antibiotics. Discontinue ampicillin. Give IV cefotaxime according to the baby's age and weight in addition to gentamicin, for 14 days or for seven days after signs of improvement are first noted, whichever is longer.
- ✓ If still no improvement, REFER

**Supportive Treatment**

- Continue IV fluids as required (See STP)
- Maintain temperature (See STP)
- Give Oxygen as required
- Introduce feeding as soon as possible
- Manage seizure (See STP)
- Manage abdominal distension:
  - Nil orally
  - Gastric aspiration 2 hourly until no distension
  - If not improved in 12 hours, REFER to higher center

**Panel: Antibiotics dosage for sepsis and meningitis in neonates**

Antibiotic	Each dose	Frequency			
		Age 1 to 7 days		Age 8 days or more	
Ampicillin for sepsis	50 mg/kg/dose	12 hourly		8 hourly	
Ampicillin for meningitis	100 mg/kg/dose	12 hourly		8 hourly	
Cloxacillin for sepsis	50 mg/kg/ dose	8 hourly		8 hourly	
Gentamicin (for sepsis or meningitis)		<2 kg	4 mg/kg once daily	<2 kg	7.5 mg/kg once daily or 3.5 mg/kg/dose every 12 hour
		2 kg or more	5 mg/kg once daily	2 kg or more	7.5 mg/kg once daily or 3.5 mg/kg/dose every 12 hour
Cefotaxime for sepsis	50 mg/kg/ dose	12 hourly		8 hourly	
Cefotaxime for meningitis	50 mg/kg/ dose	8 hourly		6 hourly	