

# NEONATAL INFECTIONS

Neonatal Infection

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## Infection

- An ever increasing problem in the sick and vulnerable neonate
- Predisposition lies in the reduced immune defences of the neonate – both specific and non-specific immunity
- Specific immunity involves the action of immunoglobulins (IgG, IgA and IgM) and T lymphocytes

## Classification of infection

- Classified according to when acquired
- 3 types of neonatal infection .....
- 1) Intrauterine (Congenital) TORCH
- 2) Intrapartum (up to 1<sup>st</sup> week)
- 3) Post-natal (nosocomial) – from 7 days of life

## Congenital (TORCH)

- Toxoplasmosis
- Other – Syphilis, Varicella, HIV, parainfluenza
- Rubella
- Cytomegalavirus
- Herpes (type 2)
- “TORCH”

## Intrapartum infection

- Group B streptococcus is the most common
- 60% is early onset
- 20% fatal (when there is septicaemia)
- Mimics RDS, collapse / shock, grunting, apnoea
- Treated with penicillin
- Other types – Listeria and Herpes

## Acquired Post natal (late onset)

- Nosocomial infection
- Staphylococcus – most common plus gram negative bacteria (E Coli)
- Viral
- Fungal
- Meningitis

## Maternal signs

- Maternal History & presence of infection
- Chorioamnionitis
- Fever
- Raised CRP
- Prolonged rupture of membranes (PROM)
- Fetal distress
- Foul / cloudy liquor

## Fetal signs

- PRIOR TO DELIVERY.....
- Sustained fetal tachycardia  $> 160$  bpm
- Preterm delivery – common cause is infection
- LBW
- Low apgar ( $<5$  at 1 minute)



## Neonatal signs

- RESPIRATORY
- Tachypnoea
- Apnoea
- Hypoxia
- Nasal flaring
- Grunting
- Irregular respirations

## Neonatal signs

- **CARDIOVASCULAR**
  - Hypotension
  - Metabolic acidosis
  - Tachycardia
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- **TEMPERATURE INSTABILITY**
  - Newborn temperature <36 OR pyrexial

## Neonatal signs

- **GASTROINTESTINAL**
- Vomiting, Diarrhoea, Abdominal distension, poor feeding
  
- **NEUROLOGICAL**
- Activity decreased or lethargy, Irritability
- Tremor or seizure, Hyporeflexia or hypotonia
- High pitched cry, Fontanelle full

## Neonatal signs

- SKIN
- Pallor or skin mottling
- Petechiae or purpura
- Cold or clammy skin
- Cyanosis
- Jaundice

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## Laboratory signs

White cell count  $< 5000$  OR  $> 25000$

Neutrophil count  $< 1000$

Blood culture

Arterial blood gas

Lumbar puncture

Urinalysis ( $> 3$  days old)

Electrolytes

CRP

## Management

- Observe for signs and risks
- 'Universal precautions'- prevention
- Minimise risk of infection
- Septic screen if infection suspected – full or partial
- Treat with antibiotics if required based on cultures / CRP.

## Bibliography

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