

## PERINATAL INFECTIONS

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## Immunology

- Antibodies
  - IgM – doesn't cross placenta
  - IgG – crosses readily, mostly during 3<sup>rd</sup> trimester
- Depressed functions
  - Phagocytosis
  - Complement
  - Anamnestic response
  - Excess suppressor cells

## Acquisition

- Vertical: Mother → Infant
  - Transplacental
  - Ascending
  - Intrapartum
- Horizontal
  - Nosocomial
  - Community

## Bacterial Sepsis

- Incidence: 2-10/1000 liveborn
- Risk factors:
  - Prematurity
  - Prolonged Rupture of Membranes
  - Chorio-amnionitis
  - Instrumentation
  - Male
  - Lower SES
  - Prolonged labor

## Bacterial Sepsis

- Organisms
  - Group B Strep (40% - 50%)
  - E coli (30%)
  - Listeria monocytogenes
  - Other GNRs, GPCs
  - Changing patterns over time

## Bacterial Sepsis

- Early-onset
  - Ascending infection, intrauterine pneumonia
  - 0-7 days of life
  - 50% by 12 hours, 80% by 24 hours
  - 15-20% with meningitis
  - Mortality 10 – 20%

## Bacterial Sepsis

- Clinical manifestations
  - Respiratory distress
  - Lethargy
  - Temperature instability
  - Apnea
  - Emesis
  - Poor feeding
  - Shock

## Bacterial Sepsis

- Evaluation
  - High index of suspicion
  - CBC w/ diff
  - Cultures: BC, CSF, ?urine
  - CXR
- Treatment
  - Empiric: Ampicillin + Gentamicin
  - Switch to specific Rx
  - WBC txn
  - Immunoglobulins
  - Supportive therapy

## Bacterial Sepsis

- Late-onset
  - 1-12 weeks of life
  - focal infection more likely
  - meningitis, pneumonia, bone and joint
  - more indolent
  - mortality 5-10%

## Intra-uterine Infections

- CMV
  - Most common: 10/1000 liveborn
  - Most are asymptomatic (90-95%)
  - Sx
    - IUGR/SGA
    - Petechiae
    - HSM
    - Mixed jaundice
    - Microcephaly
    - Cerebral calcifications – periventricular

## Intra-uterine Infections

- CMV
  - Diagnoses by urine culture; serology not usually necessary
  - RX: ganciclovir (experimental); results not encouraging
  - Prognosis: 60–80% abnormal CNS outcome if symptomatic

## Intra-uterine Infections

- Syphilis
- Rubella
- Toxoplasmosis

## Perinatal Viral Infections

### ● HIV

- Generally acquired Intrapartum; can be intra-uterine (rare), or post-partum (breast milk)
- Transmission rate 25 – 33%
- Protocol: AZT orally during Pg, IV in labor, post-natal for 6 weeks
- With full protocol, transmission 7%
- Currently <3% transmission
- Newer drugs being examined
- Diagnosis by PCR and western blot (positive > 18 months)

## Perinatal Viral Infections

### ● Herpes

- Intrapartum acquisition
- Transmission rates: 30% for primary infection, 3% if recurrent
- C/S if < 4-6 hours of ROM with active lesions
- Symptoms at 4 days to 4 weeks

## Perinatal Viral Infections

### ● Herpes

- 3 forms:
  - Skin, Eye, Mouth
  - CNS
  - Disseminated
    - Sz, irritability, skin lesions, jaundice, DIC, liver failure, pneumonia, shock
- Mortality: SEM 0%, CNS 15%, Dis. 60%
- Morbidity: SEM 10%, CNS 55%, Dis. 50%
- Rx: Acyclovir, vidarabine