PRETERM DELIVERY

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PRETERM DELIVERY
PRETERM DELIVERY
OVERVIEW

- Etiology
- Neonatal complications
- Treatment
PRETERM DELIVERY

- Definition - labor prior to 37 weeks’ gestation
- Frequency - 12%
- 500,000 preterm births annually
- 30% of these births are < 34 weeks
When anomalies incompatible with life are excluded, complications of preterm birth are responsible for almost 75% of all neonatal deaths.
PRETERM DELIVERY
ETIOLOGY

- PROM – single most important etiology
- Abruptio placentae
- Placenta previa
- Uterine or cervical anomaly
PRETERM DELIVERY
ETIOLOGY

- Fetal anomaly
- Polyhydramnios
- Systemic disease
- Dehydration
Multiple gestation
Infection – lower and upper genital tract and systemic
Trauma
Idiopathic
NEONATAL COMPLICATIONS OF PREMATURITY

- HMD
- IVH
- NEC
- Sepsis
  - GBS
  - *E. coli*
NEONATAL COMPLICATIONS OF PREMATURITY

- Metabolic derangements
- Thermal instability
- Renal dysfunction
- PDA
- Apnea and bradycardia
PRETERM LABOR EVALUATION

- Clinical examination
- Cervical examination
  - Digital and sonographic
- Uterine monitoring
- Ultrasound
### PRETERM LABOR EVALUATION

<table>
<thead>
<tr>
<th>TEST</th>
<th>PURPOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBC</td>
<td>WBC $\rightarrow$ evaluate for infection</td>
</tr>
<tr>
<td></td>
<td>HCT $\rightarrow$ evaluate for blood loss</td>
</tr>
<tr>
<td>Coagulation tests</td>
<td>Identify abruption</td>
</tr>
<tr>
<td>TEST</td>
<td>PURPOSE</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>Serology</td>
<td>Evaluate for infection</td>
</tr>
<tr>
<td>Urine culture</td>
<td>Identify UTI</td>
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</table>
PRETERM LABOR EVALUATION

- CXR
- PCR for gonorrhea and chlamydia
- Saline microscopy for BV
- Culture for GBS
- Amniocentesis
  - Rule out infection
  - Assess FLM
MANAGEMENT OF PRETERM LABOR

- Treat underlying disorder
- Assess fetal well being
  - Ultrasound
  - FHR monitoring
  - Doppler
- Evaluate for tocolysis
MANAGEMENT OF PRETERM LABOR
STEROIDS

- **Betamethasone**
  - 12 mg i.m. q 24h x 2 doses

- **Dexamethasone**
  - 6 mg i.m. q 12h x 4 doses

- **Effects**
  - Decrease in RDS
  - Decrease in IVH
  - Decrease in NEC
<table>
<thead>
<tr>
<th>INFECTION</th>
<th>TREATMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gonorrhea</td>
<td>Ceftriaxone, 250 mg i.m. plus Azithromycin, 1000 mg p.o.</td>
</tr>
<tr>
<td>Chlamydia</td>
<td>Azithromycin, 1000 mg p.o.</td>
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</table>
## MANAGEMENT OF PRETERM LABOR ANTIBIOTICS

<table>
<thead>
<tr>
<th>INFECTION</th>
<th>TREATMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial vaginosis</td>
<td>Metronidazole, 500 mg p.o. BID x 7 d&lt;br&gt;Metronidazole, 2 grams p.o. x 1</td>
</tr>
<tr>
<td>GBS</td>
<td>Ampicillin, 2 g x 1, then 1 g Q 4h until delivery</td>
</tr>
<tr>
<td>Chorioamnionitis</td>
<td>Ampicillin (2 g Q 6h) plus gentamicin (1.5 mg/kg/day)</td>
</tr>
<tr>
<td>Mode of administration – SQ, PO, or IV</td>
<td></td>
</tr>
<tr>
<td>Dose - 0.25 mg SQ and 5 mg PO</td>
<td></td>
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<tr>
<td>Adverse effects - cardiovascular and metabolic</td>
<td></td>
</tr>
</tbody>
</table>
  - Rarely used today because of these side effects |
TOCOLYTICS
MAGNESIUM SULFATE

- Mode of administration - IV
- Dose – 4 to 6 g load plus 2-4g/h, titrated to effect
- Provides tocolysis and neuroprotection
- Adverse effects
  - Muscle weakness
  - Visual changes
  - Hypocalcemia
TOCOLYTICS
INDOMETHACIN

• Mode of administration - PR or PO
• Dose - 25 mg Q 6h
• Adverse effects
  ○ Stricture of DA
  ○ Oligohydramnios
• Should not be used after 32 weeks or for > 48 h
• Mode of administration - oral
• Dose - 10 mg Q 20 minutes x 3, then 10 mg q 4 to 6h
• Principal adverse effect → hypotension
• Preferred agent because of ease of administration and tolerability
## PREVENTION OF PRETERM DELIVERY

<table>
<thead>
<tr>
<th>DRUG</th>
<th>DOSING REGIMEN</th>
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<tbody>
<tr>
<td>Progesterone vaginal suppositories</td>
<td>100 mg daily</td>
</tr>
<tr>
<td>Micronized progesterone tablets</td>
<td>200 mg daily</td>
</tr>
<tr>
<td>17-OH P</td>
<td>250 mg i.m. weekly</td>
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</tbody>
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Effectiveness – approximately 50%
PREVENTION OF PRETERM DELIVERY
PRETERM LABOR

CONCLUSIONS

- Frequency – 12%
- Multifactorial etiology
- Single most important cause of neonatal mortality
- Management
  - Tocolytics
  - Corticosteroids
  - Antibiotics – in selected instances
  - Preventive measures in subsequent pregnancy