

Respiratory disease of the newborn

Clinical feature:

- apnoea (>15 secs)
- tachypnoea (RR >60/min)
- exp grunting
- nasal flaring
- cyanosis
- subcostal/intercostal recession

Commonest causes of rest distress in the newborn:

- Transient tachypnoea of the newborn
- RDS- lack of surfactant
- Meconium aspiration syndrome- post term/foetal distress in ureto

Differential diagnosis:

1. Transient tachypnoea of the newborn
2. Resp distress syndrome
3. Meconium aspiration syndrome
4. Infection
5. Pneumothorax
6. Non-pulmon causes
7. Congenital diaphragmatic hernia
8. Persistent pulmonary HTN of the newborn

TTN

- benign and lasts up to 48 hours.
- presents within 2 hours of birth
- caused by persistent lung liquid

Risk factors:

1. Male
2. Macrosomia
3. Maternal DM
4. CS

RDS

- Commonest cause is preterm delivery
- Due to structural and functional immaturity
- Risk factors: prematurity, IDM, male

Pathophysiology:

- Immature type 2 pneumocytes so less surfactant
- less alveolar surface area
- less blood vessels in lung
- stiff low volume lungs
- hypo perfusion
- pulmon HTN

Meconium aspiration syndrome

Results in:

- mechanical airway obstruction
- chemical pneumonitis
- severe hypoxia
- air leaks
- pulmon HTN

Sepsis/early-onset pneumonia

Bacteria from birth canal:

- group B strep
- staph aureus
- gram negative bacilli

Risk factors:

- prematurity
- ROM (rupture of membranes >24hrs)
- maternal fever

Principles of management

Antenatal care:

- good jobs care
- maternal corticosteroids
- optimal timing of delivery

Postnatal care

- initial evaluation
- effective resus
- safe transfer to NPICU
- proven cold injury

In NPICU:

- neutral temp and humidity
- invasive and non-invasive monitoring
- resp support
- water, glucose and e- balance
- nutritional support: TPN, milk
- antibiotics
- adequate analgesia and sedation
- minimal handling policy

Resp support:

- nasal prong O2
- nCPAP; BiPAP
- mechanical ventilation
- airway management

Water and glucose infusion

Early parenteral nutrition

Complications of resp distress

- hypoxic injury, shock and organ failure
- IVH
- brain white matter injury
- renal failure, water overload
- hyponatremia and hyperkalemia
- ileus
- pneumothorax
- patent arterial duct
- retinopathy
- iatrogenic injury: vascular, burns, skin necrosis

