

Neonatal Apnoea

Definition:

- Pause in breathing of longer than 10-15 seconds, often assoc. with bradycardia, cyanosis or both.

Sequelae of recurrent Apnoea:

- Failure of mechanisms that protect cerebral blood flow leading to ischaemia & leukomalacia.

Etiology

Most common cause: prematurity

Others:

- Infections
- CNS - IVH, neonatal seizures
- Heart - CHD & shunting or pulm. oedema
- Metabolic - hypocalcaemia, hypoglycaemia, ↓Na⁺ or acidosis
- Haematological - Anaemia
- GIT - NEC or reflux
- Temp - HypoT or hyperT
- Drugs - Prenatal exposure

Classification (Mechanisms)

Central Apnoea

Due to no signal from the brainstem transmitted to diaphragm, to stimulate its movement.

- Immaturity of brainstem resp. centre

Obstructive

Due to obstruction of airflow in upper airway.

- Weak pharyngeal muscles collapsible.
- Excessive secretions

Mixed

A combination of both. Accounts for up to 50% of all episodes.

Surveillance

- All neonates <34 weeks or <1800g. } Non-operative
- Operative: all <37 weeks until >60 week cGA.

Rx:

Methylxanthines

MOA: Block adenosine receptors, thereby stim. respiratory neurons & ↑ drive & ↑ sensitivity to CO₂.

- Caffeine citrate: 20mg/kg IV or p.o. then 5mg/kg/day in divided doses
- Theophylline: 6mg/kg IV/po. then 6mg/kg per day in 2-4 doses IV/po. Must give over 20 minutes!

Ventilation

Intermittent Mandatory Ventilation

longer duration of action + less toxic

bronchodilator benefits