Neonatal Collapse

Refer EARLY to KIDSNTS for advice
0300 200 1100

Presentation:
- Often non-specific presentation - **THINK neonatal collapse pathway early.**
- Respiratory - increased work of breathing, apnoea, hypoxia.
- CVS - tachycardia, hypotension, poor pulses (signs of shock).
- Neuro - seizures, hypoglycaemia, encephalopathy.

Differential Diagnosis:
- Sepsis.
- Cardiac.
- Metabolic.
- Trauma/NAI.

Resuscitation and treat as presumed Sepsis:
- A/B) Administer oxygen (15L/min) and activate Paediatric Resus team (including anaesthetist).
- C) Urgent Venous access - use Intraosseous (IO) route if difficult peripheral access and/or 2+ attempts. Push early fluid bolus.
- Antibiotics - give antibiotics as per local guidelines. (+ consider Aciclovir)
- Early blood gas - and if glucose < 3mmol/L give 2ml/kg 10% glucose bolus.
- Bloods (FBC/Coag/UE/LFT/Ammonia) and BC.

Sepsis management:
- See KIDSNTS Sepsis guideline.
- 10 ml/kg fluid bolus 0.9% saline (push by hand).
- Re-assess and further fluid bolus if necessary.
- Call KIDSNTS for advice.
- Prepare peripheral strength adrenaline EARLY (see KIDS drug calculator).
- If required, start peripheral adrenaline at 0.1mcg/kg/min (IV/IO).
- Prepare for intubation.

Consider Cardiac causes:
- Duct dependant lesions (i.e Coarctation of Aorta, Hypoplastic left heart etc); Transposition; SVT (if HR > 220); Myocarditis; TAPVD.
- Examine - murmur; absent femoral pulses; pulse volume; 4 limb BP's; hepatomegaly.
- Investigate - pre/post ductal oxygen sats; hyperoxia test; 4 limb BP's; CXR; ECG; Echo if possible.
- **Concern for possible duct dependant lesion - start PROSTIN urgently at 10-50 nanograms/kg/min.**

Cardiac management
- Prostin doses > 10-20 nanograms/kg/min will cause apnoea and are likely to necessitate intubation and ventilation.
- If considering intubation discuss with KIDSNTS - for discussion of both inotropic support and choice of drugs for anaesthetic induction (i.e ketamine 1mg/kg for cardiac stability).
- Assess for signs of heart failure - cardiomegaly, hepatomegaly, gallop rhythm. Be cautious with fluid boluses (5ml/kg) if concerns.
- If SVT present - see KIDSNTS SVT guideline.

Consider Metabolic causes:
- Symptoms - seizures; encephalopathy; low blood glucose; metabolic/lactic acidosis; respiratory alkalosis. (ask RE: consanguinity)
- Urea cycle disorders and organic acidaemias can lead to raised **AMMONIA**.
- **If ammonia > 100-150, requires urgent KIDSNTS and Metabolic team opinion.**
- If any signs of CAH - give hydrocortisone.

Metabolic management:
- Treat hypoglycaemia with 2ml/kg 10% glucose bolus.
- **Hyperammonaemia = TIME CRITICAL.**
- If ammonia > 100-150 - may require metabolic medications and/or CVVH on PICU.
- See KIDSNTS hyperammonaemia guideline.
- Neonate may require CVS support and inotropes (do not delay transport for CVC).

Consider Trauma/NAI:
- Abnormal neurology - reduced tone; seizures; unequal pupils; raised fontanelle.
- Bruising; anaemia; Any safeguarding concerns?

Trauma/NAI management:
- Urgent imaging - CT brain.
- D/w neurosurgical team and follow KIDSNTS neurosurgical guideline if required.

Author - KA/RN- Sept '24. Review Sept '28.