DUCT-DEPENDED CONGENITAL HEART DISEASE

Postnatal Presentation

- Acute cardio-respiratory failure with shock
- Cyanosis, often unresponsive to supplementary oxygen
- SOB on feeding

Examination

- Weak or Absent femoral pulse with hypoxia
- Not always an audible murmur
- Cardiogenic shock or Heart failure
- ABG
- Acidosis and Increase lactate levels
- Confirmed with 2D EHCO

Duct dependent systemic circulation

- Hypoplastic left heart syndrome
- Coarctation of the aorta
- Critical aortic stenosis

Duct dependent pulmonary circulation

- Tetralogy of Fallots
- Pulmonary atresia
- Critical pulmonary stenosis
- Tricuspid atresia

Duct dependent systemic & pulmonary circulations

- TGA

Other potential diagnoses

- Methhaemoglobinaemia
- PPHN
- Primary pulmonary disease
- Sepsis
- Metabolic disorders

Airway & breathing

- Intubate if indicated
- Monitor pre & post ductal saturations
- Negative hyperoxia test and maintain supplementary oxygen to maintain SaO_2 75-85%

Circulation

- Site 2 intravenous cannulae (consider UVC)
- Treat hypotension with 10ml/kg isotonic fluid bolus(max 30ml/kg)
- Treat resistant hypotension with dopamine ± adrenaline
- Commence PGE2 to open and/or maintain ductal patency 5-10 nanograms/kg/min (side effects – hypotension, hypoglycaemia, apnoea, fever)
- Four limb blood pressures
- 2D EHCO if able
- ECG

Make up to 15microg/kg of PGE2 to a total volume of 50ml 5% glucose.
1ml/hr = 5 nanograms/kg/min
Dose 5-50 nanograms/kg/min