Neonatal polycythemia

Def.:

Venous Hgb>22.0g/dl or Hct>65% during the first week of life

Etiology of neonatal polythycemia

Possible causes by placental hypertransfusion
- Twin-to-twin transfusion
- Maternofetal transfusion
- Delayed cord clamping
  - Intentional
  - Unassisted home delivery

Possible association
- Placental insufficiency
  - Small-for-gestational-age
  - Postmaturity birth
  - Toxemia of pregnancy
- Placental previa
- Endocrine and metabolic disorder
  - Congenital adrenal hyperplasia
  - Neonatal thyrotoxicosis
  - Maternal diabetes
- Miscellaneous
  - Trisomy 21,13 and 19
  - Hyperplastic visceromegaly
  - Erythroderma icthyosiforme congenita

Possible symptoms

1. A consequence of hypervolemia and an increase in blood viscosity
2. Respiratory distress, cyanosis, congenital heart failure, convulsions, priapism, jaundice, renal vein thrombosis, hypoglycemia and hypocalcemia

Management

partial exchange transfusion with **5% albumin** or **normal saline**

Exchange volume=

〔(observed Hct-desired Hct)* blood volume(ml/kg)*BW(kg)〕

÷(observed Hct)

Total blood volume: Premature infant 95cc/kg

Term newborn 80cc/kg