

Guidelines for Management of Neonatal Hemorrhage Shock

- Admission CBC, coagulation profile (PT, PTT, Fibrinogen), cord blood work up and Type and Cross, ABG panel, Lactate
- Order 1 Unit Emergency low titer type O- blood and 1 Unit type AB FFP and Call the Blood Bank.
- Establish vascular access
 - o UAC or PIA
 - o UVC
- Start IV fluids with D5W ½ NS at 80 mL/kg/d
- Run 0.9 NS at 20-40 mL/kg/hr until blood products are available
- Give 1-2 mg IV Vitamin K
- Transfuse 20 mL/kg PRBCs and 20 mL/kg FFP over 30-60 minutes
- Give additional blood products as follows:
 - o PRBCs (10-20 mL/kg) to keep Hgb > 10 gm/dL
 - o Plasmapheresis Platelets (20 mL/kg) to keep Plts > 150 K
 - o FFP (10-20 mL/kg) to keep INR < 1.5.
 - o Cryoprecipitate (1 Unit) to keep PTT < 45 and Fibrinogen > 150
- If bleeding persists despite additional blood products, give 50-100 mcg/kg Recombinant Activated Factor VII (Novoseven) or 10 Units/kg FEIBA (Anti-Inhibitor Coagulant Complex) which contains non-activated factors II, IX, and X and activated factor VII
 - o Novoseven corrects elevated PT
 - o FEIBA corrects elevated PT and PTT
- For on-going hemorrhage, give PRBCs and FFP in 1:1 to 1.5:1 ratio
- Follow ABG panel with iCa hourly while actively bleeding and maintain iCa > 1.1 with 50-100 mg/kg Calcium Gluconate given over 30 minutes.
- Repeat CBC and Coagulation panel after every 2 hrs while actively bleeding
- Hypothermia: Depending on the rate and volume of the transfusions, a state of hypothermia may result from the administration of refrigerated blood products and worsen the coagulopathy. Monitor core temperature closely. For massive transfusions, ensure that blood products are delivered using an IV warming device.
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