HEMPP Post-Partum Hemorrhage

longlives ANESTHESIA PATHWAYS

Acute massive bleeding in the peri/post-partum period

Start

1. **Call for "ANESTHESIOLOGIST STAT"**
2. **Open IV fluids and assess for adequate access**
(Confirm large-bore IV access; Consider A-line, CVC)
3. **Turn FiO_2 to 100% and turn down anesthetics**
4. **Anesthesiologist to call blood bank**
- PMC 704-384-5112 – MMC 704-384-6505 – HMC 704-316-3805 – MHMC 980-302-1402
   - Assign 1 person in OR as primary contact for blood bank
   - Activate Obstetric Massive Transfusion Protocol
      - 4 RBC, 4 FFP, 1 Cryoprecipitate pool (5 units)
      - Transfuse in ratio of 1 FFP: 1 PRBC
      - Do not wait for lab results for initial transfusion
      - Continue MTP transfusions if evidence of coagulopathy and significant bleeding
   - Transfuse Platelets, if indicated (1 platelet pack per 6 PRBC)
5. **Send labs** (tube colors)
   - ABG with lactate and ionized calcium, CBC (lavender), PT/PTT/INR/fibrinogen (light blue), K^+ (mint green),
   - Consider i-Stat for rapid results (Hg, K^+, INR)
6. **Request Level 1 Rapid Infuser or High Flow Ranger**
7. **Consider Cell Salvage if indicated**
8. **Keep patient warm**
9. **Discuss management plan with Surgical, Anesthesia and Nursing teams**
   - Consider surgical consultation (Gyn Onc, IR, Vascular, etc.)
10. **Consider intubation of patient as situation indicates**
11. **Consider**
   - Etiology: Tone, Tissue, Trauma, Thrombin (see Table II on flow diagram)
   - Electrolyte disturbances (Hyperkalemia, Hypocalcemia)
   - Un-crossmatched type O blood if crossmatched unavailable
   - Uncontrolled bleeding:
      Consider DIC, Bakri balloon, B-Lynch suture, uterine artery ligation or embolization, hysterectomy
   - Hematology consult
   - Postop ICU Care
   - Foley placement

DRUG DOSES and treatments (see flow sheet)

Uterotonics

Oxytocin:	10-40 units per 500-1000mL solution
Methylergonovine:	0.2 mg IM, may repeat; avoid with hypertension
15-methyl PGF2α (Hemabate, Carboprost)	250 mcg IM, may repeat q 15 min to 8 doses; avoid with asthma; caution with hypertension
Misoprostol (Cytotec):	800-1000 mcg PR/SL; 600 mcg PO
Tranexamic acid:	1000 mg in 100 mL NS IV over 10 minutes, may repeat after 30 minutes

Transfusion related HYPO-calcemia treatment

Give calcium to replace deficit (calcium chloride or calcium gluconate)

Transfusion related HYPER-kalemia treatment

Calcium Gluconate – or - Calcium Chloride	30 mg/kg IV 10 mg/kg IV
Insulin/dextrose	10 units regular IV 1-2 amps D50W as needed
Sodium bicarbonate if pH < 7.2	1-2 mEq/kg IV slow push

OBSTETRIC

- Transfer to Main OR or call to main OR for help
- Consider Main OR or ICU for Recovery
- Empirical administration of 1 pool cryoprecipitate (goal fibrinogen > 150 mg/dL)
   - If fibrinogen < 100 mg/dL >> order 2 pools of cryoprecipitate
   - If fibrinogen 100-150 >> order 1 pool of cryoprecipitate

CLASSIFICATION OF POST-PARTUM HEMORRHAGE

Stage 1: Blood loss > 500mL vaginal; OR blood loss > 1000 mL Cesarean with normal vital signs and lab values

Stage 2: Continued bleeding (EBL up to 1500 mL or > 2 uterotonics) with normal vital signs and lab values

Stage 3: Continued bleeding (EBL > 1500 mL or > 2 PRBCs given; at risk for occult bleeding/coagulopathy; any patient with abnormal vital signs/labs/oliguria

Stage 4: Cardiovascular collapse (massive hemorrhage, hypovolemic shock, amniotic fluid embolism)

PROVIDENCE ANESTHESIOLOGY ASSOCIATES