Postpartum Emergencies: You Thought You Were Past Hemorrhage, Infection, Etc.

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Postpartum Emergencies

- Definition of postpartum period
  - First 24 hours is **immediate** postpartum period
  - First week is **early** postpartum period
  - Up to 90 days is **late** postpartum period

Postpartum Emergencies

- At the conclusion of this presentation the participant will be able to:
  1. Discuss the treatment of hemorrhage in the postpartum period
  2. Define the phases of systemic inflammatory response syndrome (SIRS)
  3. Discuss the nurse's role in a postpartum code situation

Postpartum Emergencies

- Hemodynamic changes
  - CO peaks immediately after delivery
  - 80% > than prelabor in women with no or only local anesthesia
  - CO remains elevated first 48 hours then decreases

Postpartum Emergencies

– Up to 24 weeks pp to return to prepregnant levels

– Autotransfusion at delivery: 500-750 mL to maternal venous system

– Lose about 1,000 mL by blood loss and diuresis by 2 weeks pp, more if C/S

Postpartum Emergencies

- Bleeding complications
  - Uterine atony is common
  - Retained products: From oozing to shock
  - Hematoma-not so common but a large amount of blood may be lost

Postpartum Emergencies

- **WOMEN STILL DIE POSTPARTUM!!!**
  - Hemorrhage
  - Infections
  - Eclampsia
  - Emboli

Postpartum Emergencies

– Lacerations

– Placenta accreta, increta, percreta

– 90% of women with abnormal adherence of the placenta lose > 3,000 mL of blood intraoperatively

Postpartum Emergencies

- Inverted uterus
- Ruptured uterus: Increasing frequency
- Abdominal pregnancy: Thankfully rare
- Bleeding from uterine incision: There is a story here

Postpartum Emergencies

- Initial pp period pt still has 40-50% more fluid volume so may act fine til loss of 1/3 of volume
- Anxiety, restlessness and orthopnea are not normal, especially as you move away from time of delivery. Assess/reassess!!

Postpartum Emergencies

- Accurate I & O, remember insensible loss
- Assess pulse-shouldn't be tachycardic
- Assess BP for trends, especially decreasing BP

Postpartum Emergencies

- **Stay ahead of volume loss**
- Once you get behind and shock ensues it is much harder to stabilize patient
- Order the blood-you can always send it back

Postpartum Emergencies

- Volume replacement is 3cc for each 1 cc lost
- Goal is urine output of 30-60 cc/hr and Hct of 30%
- Anticipate pulmonary edema: Low COP

- **DIC: DEATH IS COMING!!!!!**

Postpartum Emergencies

- Auscultate breath sounds
- Foley ASAP
- Use a standard BP cuff if hypotensive-the automatic cuff is less accurate
- ECG monitoring if hypotensive or tachy

Postpartum Emergencies

- Makes no sense
- It is a syndrome so treat the underlying condition
- May be subclinical to fulminant
- Usually requires lots of blood products

Postpartum Emergencies

- Associated with
  - Abruptio placenta
  - Hemorrhage
  - Preeclampsia/eclampsia
  - Amniotic fluid embolism (syndrome)

Postpartum Emergencies

- Use up all you clotting factors by bleeding and intravascular clotting
- Decreases circulating volume and oxygen delivery
- RBCs also get destroyed by moving through clotted areas

Postpartum Emergencies

- Sepsis
- Massive transfusion therapy
- Dead fetus syndrome-usually benign
- Cardiopulmonary arrest
- Saline termination of pregnancy

Postpartum Emergencies

- Organ damage occurs from lack of oxygen
- Syndrome-you have to find the source and fix it
- **Meticulous I & O!!!!**

Postpartum Emergencies

- Supportive measures
  - Oxygen to hemodynamic monitoring
- Blood/blood products administration
  - PRBC's
  - Plasma
  - Platelets
  - Cryoprecipitate

Postpartum Emergencies

- Seizures
  - Eclampsia vs neurologic
  - What is patient's history?
  - Type of seizure activity-Partial? Tonic/clonic?

Postpartum Emergencies

- One nurse for I & O, checking blood per hospital protocol, making sure labs drawn as ordered
- Labs for H+H, plt count, calcium (blood may be calcium deficient-arrhythmias) and potassium (may increase to dangerous levels)

Postpartum Emergencies

- Nursing Management
  - Airway: Nasopharyngeal airway-forget oral airways or padded tongue blades
  - Breathing: Bag/valve/mask device-usually 2 nurses
  - Circulation: Assess pulse then cardiac and pulse oximeter monitoring

Postpartum Emergencies

- Medications: Diazepam, Mag Sulfate, Phenytoin
- The baby's out-so diazepam is in-it's easy, available and can be administered without an IV
- Though you REALLY want an IV if one not in place

Postpartum Emergencies

- Preventing seizures is my favorite nursing management
- Watch for red flags-preeclampsia and eclampsia can present for the first time pp
- Anticipatory nursing-know that prenatal and L+D history

Postpartum Emergencies

- Mag Sulfate agent of choice antepartum, but may need to be mixed and patient seizing-thank heaven for premixed
- Phenytoin is good, especially for neurological seizure, requires cardiac monitoring
- Assign one nurse to document

Postpartum Emergencies

- Thromboembolic disease
- Too scary!!!
- Prevention is possible
- Identification of potential sources/history

Postpartum Emergencies

-- Previous history of DVT/embolus

– Advanced maternal age

– Antiphospholipid antibody syndrome

– Factor V Leiden mutation

Postpartum Emergencies

- Severe varicosities
- Previous trauma
- C/S-Ninefold increase vs vaginal birth

Postpartum Emergencies

– Protein C deficiency

– Protein S deficiency

– Antithrombin 3 deficiency-especially in renal patients

Postpartum Emergencies

- Diagnosis is difficult-in one study 45% of patients with clinical DVT **DID NOT** have a DVT with venography
- Of patients with PE only 10% were dx with a DVT
- Theorized that the more the DVT is symptomatic, the more the clot is adherent

Postpartum Emergencies

- Pulmonary embolism
  - Signs and symptoms often vague
  - Tachypnea
  - Tachycardia
  - PaO2 < 80 on room air

Postpartum Emergencies

- CXR not a lot of help
- ECG usually normal
- Ventilation/perfusion mismatch
- Pulmonary angiography or US

Postpartum Emergencies

- Anxiety
- Orthopnea
- Hemoptysis
- Pleuritic chest pain
- Elevated temp

Postpartum Emergencies

- Acute treatment can be IV heparin or low molecular weight heparin (LMWH)
- IV heparin goal: PTT 60-80 seconds for 5-10 days
- LMWH goal: dependent on type used-you measure anti Xa activity (heparin levels)

Postpartum Emergencies

- LMWH has to be injected into the abdomen
- Therapeutic heparin for 3 months
- Can drop to prophylactic dose
- Prophylaxis before DVT/PE????

Postpartum Emergencies

- Infection: Microbial phenomenon characterized by an inflammatory response to the presence of microorganisms or the invasion of normally sterile host tissue by those organisms
- Bacteremia: Presence of viable bacteria in the blood

Postpartum Emergencies

- Systemic Inflammatory Response Syndrome (SIRS)
- The systemic response by the host's inflammatory system that results in a wide variety of damage to the host's tissues

Postpartum Emergencies

- Sepsis is the systemic response to infection. Have to have at least 2 of the following criteria:
  - Temp >38^{0}C or <36^{0}C
  - Heart rate > 90 BPM
  - Resp rate > 20 breaths/min or $PaCO_2$ < 32 mm Hg
  - WBC > 12K cells/mm^3, or 10% immature bands

Postpartum Emergencies

- Sepsis (severe): Sepsis with organ dysfunction, hypoperfusion or hypotension. Hypoperfusion and perfusion abnormalities may include, but are not limited to lactic acidosis, oliguria or an acute alteration in mental status

Postpartum Emergencies

- Septic shock: Sepsis-induced hypotension despite adequate fluid resus, along with presence of perfusion abnormalities already noted. Pts who are receiving inotropic or vasopressor agents may not be hypotensive at the time the perfusion abnormalities are noted (i.e. OK BP but renal shutdown with oliguria or anuria

Postpartum Emergencies

- Sepsis induced hypotension: SBP < 90 or a reduction of > 40 mm Hg from baseline in absence of other causes of hypotension

Postpartum Emergencies

- Throw out ambiguous terms like septicemia and septic syndrome
- Morbidity rates remain high and mortality rates still exist
- Causes: IAI, wound infections, skin breakdown from massive edema

Postpartum Emergencies

- Assessment
  - Temps
  - Tenderness
  - Redness
  - Foul odors

Postpartum Emergencies

- SIRS
  - Triple antibiotics
  - Vasopressor agents
  - Fluids
  - Transfer to ICU

Postpartum Emergencies

- Antibiotics at first sign of infection
- I & O extremely important: Give enough but don't overload!
  - Watch that output
  - Prevent ARDS

Postpartum Emergencies

- **CODE!!!!!!!!!**
  - ACLS: My opinion is that we all should be ACLS certified
  - Where is your equipment? Locked up or checked q shift?
  - You own it, so best be prepared
  - Anticipatory nursing!

CODES!!!

The TOP TEN Things That Go Wrong in a Code

10. Nothing, it was well run, well organized and all of the equipment worked
9. You called the special number for the code only to be told that the system is being tested

CODES!!!

5. The vice president of finance, the chairman of the board, the TV lady and all of dietary, housekeeping and maintenance respond to the code
4. The batteries on the defibrillator are dead

CODES!!!

8. There are cries of “Where is the defibrillator?”
7. Nobody answers when asked “Who is running this code?
6. EVERYBODY answers when asked “Who is running this code?”

•CODES!!!

3. There are 36 people in the room and nobody knows HOW to change the defibrillator batteries
2. The crash cart is actually a Sears MasterCraftsman tool chest intended for use on a cement floor

CODES!!!

1. The patient has been defibrillated but the MD running the code forgot to yell "**CLEAR**", there are now **5** people who require resuscitation.

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