Sharing Neurological Expertise: Development of A High Risk Obstetrical Course

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Most significant maternal complications of eclampsia are related to permanent neurological damage secondary to recurrent seizures or intracranial damage. Evidence reports a 36% maternal mortality rate. Often, care delivery focuses on the perinatal health of the mother and fetus, excluding neurological findings. To address this opportunity, neuroscience staff at an academic, community Magnet hospital developed a high risk obstetrical course for neuroscience and obstetrical nurses. Content for obstetrical nurses emphasizes "when to worry, when to call" signs of a neurological event and identification of expert resources. Didactic course offerings were collaboratively designed and are presented by nurses and physicians. This presentation discusses the frightening evidence of obstetrical neurological complications, associated high risk obstetrical course content, and learner competency assessment methods. A case study exemplifies how collaboration between obstetrical and neuroscience specialties assured a positive outcome for an obstetrical patient with eclampsia, whose vague complaints accelerated into a neurological emergency.

**Objectives:**
- Detail potential neurological complications of eclampsia, to include recurrent seizures, intracranial hemorrhage, stroke, cerebral edema and pituitary apoplexy.
- Relate the content associated with neurological care included within a high risk obstetrical course and the associated learner competency assessment methods.
- Discuss key nursing and collaborative team actions that assured a positive outcome for an obstetrical patient with eclampsia whose vague complaints quickly accelerated into a neurological emergency.

**Case Study of a High Risk Obstetrical Patient**
- 33 year old female
- C-Section delivery with epidural anesthesia
- Diagnosis - Guillain-Barré Syndrome
- Neuroscience ICU RNs conducted frequent neurological exams while patient on OB unit
- Expedited transfer to Neuroscience ICU
- Presents 1 wk post-partum
- C/O numbness/tingling in arms and legs, SOB, Malaise

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**Potential Central Nervous System Complications of High Risk OB Patients**
- Seizure – Maternal endothelial damage ↑ cerebral edema
- Intracranial Hemorrhage – Coagulation cascade activated with ↓ platelets
- Ischemic Stroke – Vessel Vasospasm and ↓ perfusion
- Pituitary Apoplexy – Hemorrhage and/or infarction of Pituitary Gland
- Spinal Epidural Abscess
- Infectious Process

**Development of a High Risk Obstetrical Course**
- Target audience
  - Labor & Delivery RNs
  - Neuroscience ICU RNs
  - Medical/Surgical ICU RNs
- Didactic presentations by clinical experts
  - Epidemiology of Critical Illness in Pregnancy and Hypertensive Diseases and Sequelae in Pregnancy
  - Hemorrhage – PostPartum Bleeding
  - Neurological A&P
  - Neurological Assessment

**Best Practice for Treating High Risk OB Patients**
- Collaborative practice
- Increase knowledge of potential neurological complications
- RNs educated about systemic complications
- When to worry-when to call parameters developed
- Expert resources identified

**Influence of High Risk Obstetrical Course**
- Awareness of "when to worry - when to call" symptoms
- Utilization of neurological experts for difficult neurological exam
- Multidisciplinary cohesive care by specialty RNs and MDs
- Improved relationship between obstetrical, critical care, and neuroscience RNs and MDs
- Rapid transfer to higher level of care environment
- Prevention of airway deterioration through rapid intervention of multidisciplinary experts

**References:**