**Quantifying Blood Loss in a Postpartum Hemorrhage**

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**PICOT Question**

In a postpartum patient, does determining blood loss via quantitative changes in hemoglobin versus weighing postpartum pads yield more accurate assessment information/diagnosis in a postpartum hemorrhage?

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**Definitions**

- **Postpartum hemorrhage (PPH):** historically defined as blood loss >500cc for vaginal delivery and >1,000cc for C-section delivery.
- **Placenta previa:** placenta is attached to the uterine wall close to or covering the cervix.
- **Placental abruption:** detachment of the placenta before delivery.
- **Accreta:** placenta remains firmly attached after delivery due to the deep implantation of blood vessels and placental tissues into the uterus.
- **Chorioamnionitis:** inflammation of fetal membranes due to infection.

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**Risk Factors**

- Placenta previa, abruption, and accreta
- Multiple pregnancy (e.g., twins)
- Large for gestational age newborn (more than 8.8 lbs)
- Failure to progress during the 2nd stage of labor
- Instrumented delivery
- Maternal hypertensive disorder (preeclampsia)
- Prior history of PPH
- Chorioamnionitis
- Prior C-section or uterine surgery

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**Decisions/Results**

- “Measured blood loss by the weighted blood loss (WBL) had poor sensitivity for detection of PPH compared to a reference standard of a hemoglobin drop >10%.”[2]
- “Underestimation was more prominent in cases where more than average-excessive blood losses were simulated while over estimations or accurate estimations were more prominent in less than average blood loss incidents when using WBL methods.”[1]
- Though quantitative changes in hemoglobin pose more accurate results, it is not an optimal method of choice due to its high cost.[2]
- WBL yields more accurate results when done quickly to reduce evaporation loss.[7]
- “The correlation coefficient between measured blood loss and corrected fall in hemoglobin for all patients was 0.77; correlation was stronger (0.80) for postpartum hemorrhage >1500mL.”[5]

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**Interventions**

- Ensure the stability of the patient and make sure the uterus is firm, bladder is empty, and no cervical lacerations exist.[3]
- B-lynch suture can be used to squeeze the uterus in order to stop excessive bleeding.[3]
- Simple education programs for assessing WBL can improve the incidence of under-estimation when assessing for PPH.[1]
- Evaluation of the cause of the PPH, initiating oxytocin, draining the bladder, fundal massage, and administration of methylergonovine maleate.[3]

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**References**