Te Linde’s Chapter 19: Control of pelvic hemorrhage & Williams OB chapter 41: Obstetric hemorrhage

**CREOG Learning objectives:**

1) List risk factors of, diagnose, and perform initial management of the following complications:

 - obstetrical lacerations

 - obstetrical hemorrhage

 - perineal hematoma

 - retained placenta

2) Diagnose and perform initial management of delayed postpartum hemorrhage

3) Understand risk factors, etiologies, signs and symptoms, evaluation, initial management, and indications for referral for the following complications:

 - injury to pelvic structures (eg, blood vessels)

 - acute and chronic blood loss

4) Understand and perform B-lynch suture placement, cesarean hysterectomy, hematoma evacuation (intra-abdominal, vaginal, vulvar), hypogastric artery ligation, repair of genital tract lacerations (cervical, perineal, vaginal), and uterine tamponade.

5) Understand uterine artery embolization and uterine artery ligation.

**Practice Questions:**

1) A 49-year old patient, gravida 1, para 1, is undergoing a laparoscopic left salpingo-oophorectomy for pelvic pain secondary to chronic left tubo-ovarian abscess. Dense adhesions with significantly distorted anatomy are encountered. As you attempt to dissect the ureter off the infundibulopelvic ligament with scissors, you suddenly notice brisk bleeding at the level of the pelvic brim quickly filling the pelvis. Despite efforts with suction irrigation, visualization is limited secondary to continued brisk bleeding. The best next step is to

 A. activate bipolar energy

 B. apply pressure with sponge

 C. perform internal iliac artery ligation

 D. place “figure of eight” stitch

 E. utilize thrombin hemostatic agents

Source: prolog GYN 8th edition #55

2) A 58-year old woman undergoes a radical hysterectomy and bilateral pelvic lymphadenectomy for early-stage cervical cancer. During the procedure, while ligating the second uterine pedicle at its origin, control of the proximal pedicle is lost, and an uncontrolled pelvic hemorrhage ensues. The best way to control the hemorrhage is

 A. apply a hemostatic agent

 B. embolize the hypogastric artery

 C. graft with a small piece of vascular mesh

 D. ligate the hypogastric artery

 E. pack the pelvis for 24-72 hours

Source: prolog Gyn onc 7th edition #58

3) A 64-year old woman undergoes a total abdominal hysterectomy, bilateral salpingo-oophorectomy, omentectomy, and debulking for advanced fallopian tube cancer. Her EBL was 600 cc. Preoperative Hct 38, decreased to 21; coagulation studies done in the PACU are normal. A few hours after she received 1.5 L of crystalloid fluid and 2U pRBCs, she has no significant change in clinical status and remains hypotensive and tachycardic, with no urine output since arriving in the unit. Her abdominal wound dressing is noted to be blood stained. The best next step in management is

 A. arterial embolization

 B. CT scan

 C. continued blood transfusion and ongoing evaluation of hemodynamic status

 D. surgical re-exploration

Source: Gyn onc prolog 7th edition #40

4) A 24-year old develops significant vaginal bleeding 1 hour after vaginal delivery of her term infant. Her uterus is boggy despite vigorous massage and uterotonics. There is no evidence of vaginal or cervical lacerations or retained products of conception. She continues to have profuse vaginal bleeding, and her uterus remains flaccid. Her blood pressure is 90/50, pulse 140. The massive transfusion protocol is initiated. The best next step in management is

 A. balloon tamponade

 B. B-lynch suture

 C. hysterectomy

 D. uterine artery embolization

Source: OB prolog 8th edition #9

**High-Yield Resources:**

1. Committee opinion 794: Quantitative Blood loss in obstetrical hemorrhage

2. Practice bulletin 183: Postpartum hemorrhage

3. Atlas of pelvic surgery – control of hemorrhage in gynecologic surgery

http://www.atlasofpelvicsurgery.com/10MalignantDisease/26ControlofHemorrhageinGynecologicSurgery/cha10sec26.html

Answers:

1. B 2. D 3. D 4. A