Appendix C. Description of Selected Procedures Used to Treat Postpartum Hemorrhage

The four-member panel identified 24 procedures used in the treatment of postpartum hemorrhage (PPH) in Egypt. Descriptions of some of these procedures are given below. (The frequency of use of the procedures, as estimated by the larger expert panel, is shown in Table 1.)

Uterine (Fundal) Massage

In obstetrics, massage of the postpartum uterus through the abdominal wall is used to treat PPH caused by lack of uterine tone (atony).[1,2] Uterine massage is also frequently included as one of the components of the active management of the third stage of labor for the prevention of PPH.[3]

Cord Clamping and Controlled Cord Traction

Late clamping of the umbilical cord (performed 1–3 minutes after birth) is recommended for all births, while the provider simultaneously initiates essential newborn care.[3] Controlled cord traction is the recommended method for removing the placenta during a cesarean section. This approach is known as active management of the third stage of labor and consists of three components: administration of a prophylactic uterotonic after the delivery of the baby, early umbilical cord clamping and cutting, and controlled traction of the cord to prevent and treat PPH.[4]

Intrauterine Balloon

Balloon tamponade of the uterus has been reported to be a useful procedure in women with extensive and intractable PPH. Placement of an intrauterine Sengstaken-Blakemore esophageal catheter (SBOC) can be used as a "tamponade test," enabling the obstetrician to identify which women will require surgical intervention.[5]

Uterine Inversion: Manual Replacement

Uterine inversion is a rare obstetric emergency that occurs when the uterine fundus collapses into the endometrial cavity and turns the uterus partially or completely inside out. If the condition is not quickly treated, it can lead to severe hemorrhage resulting in maternal death.[6] Manual replacement (by hand) of the uterus can be conducted by re-inverting the uterus and keeping the hand in the uterus until firm contraction is felt.[7]

Uterine Inversion: Surgical Replacement

When manual replacement of the uterus is not possible after uterine inversion, surgical replacement becomes necessary. Surgical procedures to treat uterine inversion are generally performed through a laparotomy (an incision through the abdominal wall),[8] but have also been performed laparoscopically (a minimally invasive procedure using tiny instruments and a camera).[9]

Dilation and Curettage

A dilation and curettage is a surgical procedure in which the cervix is dilated (opened) and an instrument is used to remove tissue inside the uterus.[10]

B-Lynch Uterine Compression Sutures

Invented by Christopher B-Lynch, the B-Lynch uterine compression suture entails placing a suture (stitch) in the uterus to mechanically compress the organ and thereby halt bleeding. It has proven safe and effective in stopping PPH.[11]

Uterine Artery Embolization

Embolization (occlusion) of the uterine artery has traditionally been used to treat uterine fibroids.[12] This procedure involves purposefully introducing an obstructing embolism into a blood vessel to block blood flow and hence stop bleeding in cases of PPH.[13]

Hysterectomy

A hysterectomy is the surgical removal of the uterus.[14]

Stepwise Devascularization

Stepwise devascularization involves a series of steps whereby blood vessels supplying blood to the uterus are progressively tied off.[15] The provider pauses after each step to assess whether bleeding has stopped; if bleeding persists, the provider continues on to the next step. The steps are as follows: (1) unilateral uterine vessel ligation, (2) bilateral uterine vessel ligation, (3) low uterine vessel ligation, (4) unilateral ovarian vessel ligation and (5) bilateral ovarian vessel ligation.

Internal iliac ligation

During ligation of the internal iliac artery (the main artery of the pelvis), the artery is closed off by means of a ligature (suture) or clip.[16,17]

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