Laparotomy for Postoperative Hemorrhage for Family Medicine Obstetricians

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Abstract

Family Physicians trained in Obstetrics who perform cesarean sections, tubal ligations, and manage ectopic pregnancies surgically will eventually have the need to perform an emergency laparotomy for postoperative hemorrhage. A re-operation necessitates opening the original incision to visualize the area that is bleeding to repair it. The stability of the patient will dictate the need for expedient operative management. It is imperative to have blood available. If there is a physician or surgeon who can assist, it would be helpful. Preparation includes anticipation of most likely sites of bleeding. Since it is essentially the same operation as previously performed, a Family Physician should be credentialed and technically able to perform this operation.

Any physician who performs any type of laparotomy for any reason will eventually have the need to reopen an original incision to control postoperative hemorrhage. Most of the time a laparotomy to control postoperative hemorrhage is an emergency, after an initial attempt to stabilize the patient with transfusion first has not been successful. The stability of the patient will determine the need for expedient operative management. Usually it is an emergency because more conservative measures have failed. Once the need for re-operation is apparent, it is necessary to summon the operating room staff and anesthesia. They should be informed of the urgent need for re-operation.

Every effort to stabilize the patient medically needs to be performed prior to returning to the operating room. Any patient with active bleeding needs two large-bore intravenous lines. Transfusion should be in progress and additional blood being made available. Often small, rural hospitals have limitations on blood availability, and they may need to make arrangements for more blood to be delivered to them. Previously, state troopers transported blood from larger to smaller hospitals; this is rarely done today. It is possible that a single patient with any type of bleeding may exhaust the hospital's blood bank supply. The unavailability of blood and blood products may prompt transferring the patient to another hospital. Active bleeding may also necessitate checking coagulation studies.

A Foley catheter is used to drain the urinary bladder. Prophylactic antibiotics are also given. A permit for emergency laparotomy and indicated procedures is obtained, if possible. If a general surgeon is available, it may be prudent to have his or her assistance. If not, another physician who operates in the abdomen, such as an OB/GYN, another family physician who has cesarean section privileges, or even one who does not, may be helpful. If one is operating on a patient for postoperative hemorrhage, one must assume that the abdomen will be full of blood. Preparation for the procedure must include evacuating that blood, so that visualization of the source of bleeding can be identified. The skin closing staples or subcuticular sutures are removed, any drains removed, and the sutures closing the fascia removed. At this point any accumulation of blood in the abdomen or pelvis will burst upon the peritoneum. Immediately evacuate the clots and blood to visualize the underlying structures. It is important to closely estimate the volume of blood and clots for replacement.

Preparation for re-operating on a patient for bleeding includes anticipation of most probable sources. The uterine incision at cesarean section, adnexa and meso-ovarium at tubal ligations, scar tissue, incision extentions, and hematomas comprise most obvious sources. Usually the surgeon will have some idea of the likely culprit. Thoughts about sources of bleeding will guide preparation of the operating staff of the need for suture and instruments. The site of bleeding is usually easier to identify within the first twenty-four hours postoperatively than later. Nothing is more discouraging than to reopen the abdomen and pelvis for bleeding after twenty-four hours, not to find the source. Generally, re-operations are easier sooner than later. However, this presents an issue of the "art of medicine" in some instances. Depending on the surgeon's preference, re-operation

may be sooner than with others. Unquestionably, if the patient is unstable, the sooner the better; however, not infrequently, given stability and time, the patient can avoid re-operation. It is not infrequent that, during re-exploration, a site of bleeding cannot be identified.

Usually it is possible to find the source of bleeding and repair it. Rarely is it necessary to perform a hysterectomy. Because of newer procedures, it is rare for anyone to have to ligate the hypogastric arteries. Sewing the uterus front wall to back wall with absorbable suture is a relatively new technique to control uterine lining bleeding. Hematomas can be isolated and oversewn. Active bleeding from isolated arteries can be clamped and ligated or oversewn. Retroperitoneal hematomas usually arise from bleeding from adnexal suturing. Copious irrigation of the pelvis after control of bleeding may confirm that active bleeding has stopped. Blood may have pooled in the upper abdomen as a result of massive bleeding before this procedure or from placing the patient in Trendelenburg position to visualize the pelvis. Placing the patient in reverse trendelenberg position may allow blood and clots from the upper abdomen to run down to the pelvis where they may be evacuated. After stability is achieved, a message to the family through the circulating nurse is invaluable.

When optimal control of bleeding is not possible or when the bleeding simply cannot be found, irrigate copiously in hopes of seeing where active bleeding is coming from. With continued uterine bleeding, O'Leary-O'Leary ligation of the uterine vessels above and below areas of bleeding may be helpful. Of the four major blood supplies to the uterus, the uterine vessels, and the ovarian vessels, three of the four may be ligated without compromising the vascular supply of the uterus. Consider clotting accelerating agents like Thrombostat or Surgicel® covering troublesome areas. The patient may need to be packed with laparotomy packs and transferred to a higher level care for further exploration.

It may be advisable to place a drain in the pelvis as well as one above the fascia. The peritoneum, fascia, and skin are then closed. Drains are sewn in place in the skin. Hemodynamic stability should be ensured before leaving the operating room. Stability in the recovery room will dictate if the patient can return to the regular floor or if she needs to go to an intensive care bed.

It is important to reiterate a few key points. Get the patient as stable as possible before returning to the operating room. Have more blood available, two large-bore intravenous lines and a Foley catheter. Have a general surgeon help, if possible. Think about where the possible bleeding sites are located. Control bleeding as soon as possible. Communicate with the family. Most of the time a reoperation within the first twenty-four hours will elucidate the cause of bleeding.

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