Breakthroughs in robotics assist in minimally invasive OB-GYN surgery

By ELISA E. BURNS, MD, FACOG

The use of minimally invasive techniques in gynecologic surgery has grown dramatically in my 25 years of practice. Advances in technology — such as robotically assisted and laparoscopic surgery — as well as new surgical techniques have changed the way we treat many gynecologic problems.

The most common reasons for gynecological surgeries are heavy menstrual bleeding and fibroids (non-malignant tumors in the uterus.) There are non-surgical treatments for these conditions such as IUDs, birth control pills and uterine artery embolizations — but none are definitive and some can have serious side effects. Through minimally invasive and robotically assisted surgery, we now can offer patients a greater range of effective options.

The smaller incisions made during minimally invasive surgery result in much less pain, a lower risk of infection, minimal scarring, decreased blood loss and faster recovery times. For instance, patients who have undergone minimally invasive hysterectomies are now going home the day of or the day after surgery and generally go back to work within one to two weeks. This is an enormous change from years ago when recovery lasted six to eight weeks. We are now also performing minimally invasive surgery for endometrial cancers through robotically assisted laparoscopic surgery.

At Northern Westchester Hospital, we use their da Vinci robot which is a tremendously sophisticated and precise surgical tool. In traditional “open” surgery, we make a long incision and then widen it to get better access. In traditional minimally invasive surgery, we use hand-operated instruments that are passed through small incisions. We look inside the patient on a standard video monitor. What’s different about the robot is that it allows us to use both small incisions and instruments that move more like the human wrist. The da Vinci also has a 3D video with high resolution that provides better visualization.

With the robot, we can manipulate and control the instruments in a very natural manner, but with a much higher degree of steadiness and finesse. The robot allows us greater surgical precision, increased range of motion, improved dexterity, enhanced visualization and improved access during certain surgical procedures. This high level of precision allows us to treat cases that couldn’t be done through other techniques. Obviously, using the da Vinci requires a great deal of training on the part of the physicians using it. However, once trained, we can expand the types of procedures we can perform. With the robot, we are able to perform very precise cancer surgery, with many of those patients being able to go home the next day. It can also be used in other instances. In one recent case, I was able to perform an abdominal cerclage (or stitch) on a woman who was at risk of delivering her baby far too early. I was able to use the robot to put the stitch inside her, exactly where it needed to be. Previously, this sort of operation would have necessitated making a large abdominal incision.

Performing minimally invasive surgery is preferable — if the case allows for it. But, of course, it is not appropriate for every case. Certain medical conditions, the size of the fibroid tumors, contraindications to general anesthesia and the shape of the patient’s body all are factors we consider.

Surely, any modern ob-gyn physician should be performing minimally invasive, laparoscopic, and/or robotically assisted laparoscopic surgery. Minimally invasive surgery, and specifically robotically assisted surgery, has really picked up in the last 10 years, and I expect it will continue to become more widely available as more and more physicians become trained.

One caveat is that patients can be misled by the relative ease of the surgery, since they generally experience little pain and typically have only a small bandage to show from the procedure. Patients must remember that minimally invasive robotically assisted surgery is still major surgery, so there is always risk of complications. Therefore, patients need to slow down, take it easy, and give themselves the necessary time to recover.

As a gynecologic surgeon, I continue to be amazed by the medical advancements being made and am especially excited to bring the benefits of robotically assisted surgery to my patients here in Westchester County. m

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