Myomectomy of a large cervical fibroid in a patient desiring future fertility

A technique for myomectomy with uterine preservation in a 33-year-old woman with a 20-cm cervical fibroid, as well as a strategy for preoperative planning (meant to reduce this surgery's high risk for blood loss, urologic injury, and hysterectomy)

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IN THIS ARTICLE

Uterine fibroids are the most common tumors of the uterus. Clinically significant fibroids that arise from the cervix are less common.[1] Removing large cervical fibroids when a patient desires future fertility is a surgical challenge because of the risks of significant blood loss, bladder and ureteral injury, and unplanned hysterectomy. For women who desire future fertility, myomectomy can improve the chances of pregnancy by restoring normal anatomy.[2] In this article, we describe a technique for myomectomy with uterine preservation in a patient with a 20-cm cervical fibroid.

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CASE Woman with increasing girth and urinary symptoms is unable to conceive

A 33-year-old white woman with a history of 1 prior vaginal delivery presents with symptoms of increasing abdominal girth, intermittent urinary retention and urgency, and inability to become pregnant. She reports normal monthly menstrual periods. On pelvic examination, the ObGyn notes a large fibroid partially protruding through a dilated cervix. Abdominal examination reveals a fundal height at the level of the umbilicus.

Transvaginal ultrasonography shows a uterus that measures 4.5 x 6.1 x 13.6 cm. Arising from the posterior aspect of the uterine fundus, body, and lower uterine segment is a fibroid that measures 9.7 x 15.5 x 18.9 cm. Magnetic resonance imaging is performed and confirms a fibroid measuring 10 x 16 x 20 cm. The inferiormost aspect of the fibroid appears to be within the endometrial cavity and cervical canal. Most of the fibroid, however, is posterior to the uterus, pressing on and anteriorly displacing the endometrial cavity (**FIGURE 1**).

What is your surgical approach?

Comprehensive preoperative planning

In this case, the patient should receive extensive preoperative counseling about the significantly increased risk for hysterectomy with an attempted myomectomy. Prior to being scheduled for surgery, she also should have a consultation with a gynecologic oncologist. To optimize visualization during the procedure, we recommend to plan for a midline vertical skin incision. Because of the potential bleeding risks, blood products should be made available in the operating room at the time of surgery.

Techniques for surgery

Intraoperatively, a vertical midline incision exteriorizes the uterus from the peritoneal cavity. Opening of the retroperitoneal spaces allows for identification of the ureters. Perform dissection in the midline away from the ureters. Inject vasopressin (5 U) into the uterine fundus. Incise the uterine serosa over the myoma posteriorly in the midline.

Perform a myomectomy, with gentle "shelling out" of the myoma; in this way the specimen can be removed intact. Reapproximate the fibroid cavity in 3 layers with 0-Vicryl (polyglactin 910) suture in a running fashion (**FIGURE 2,** page 22).

CASE Resolved

The estimated blood loss during surgery was 50 mL. Final pathology reported a 1,660-g intact myoma. The patient's postoperative course was uncomplicated and she was discharged home on postoperative day 1.

Her postoperative evaluation was 1 month later. Her abdominal incision was well healed. Her fibroid-related symptoms had resolved, and she planned to attempt pregnancy. Cesarean delivery for future pregnancies was recommended.

Increase the chances of a good outcome

Advanced planning for attempted myomectomy of a large cervical fibroid can increase the probability of a successful outcome. We suggest the following:

Counsel the patient on risks. Our preoperative strategy includes extensive counseling on the significantly increased surgical risks and the possibility of unavoidable hysterectomy. Given the anatomic distortion with respect to the ureters, bladder, and major blood vessels, involving gynecologic oncology is beneficial to the surgery planning process.

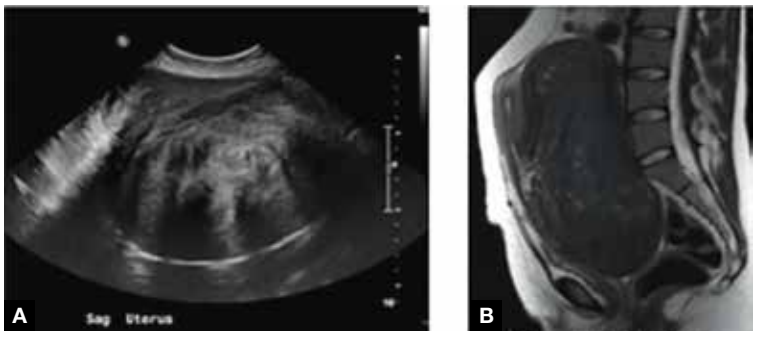
Prepare for possible transfusion. Ensure blood products are made available in the operating room in case transfusion is needed.

Control bleeding. Randomized studies have shown that intrauterine injection of vasopressin, through its action as a vasoconstrictor, decreases surgical bleeding.[3,4] While little data are available on vasopressin's most effective dosage and dilution, 5 U at a very dilute concentration (0.1–0.2 U/mL) has been recommended.[5] A midline cervical incision away from lateral structures and gentle shelling out of the cervical fibroid help to avoid intraoperative damage to the bladder, ureters, and vascular supply.

Close in multiple layers. This approach can prevent a potential space for hematoma accumulation.[6] Further, a multiple-layer closure of a myometrial incision may decrease the risk for uterine rupture in subsequent pregnancies.[7]

Advise abstinence postsurgery. There are no consistent data to guide patient counseling regarding recommendations for the timing of

FIGURE 1 Imaging pinpoints the location of a large uterine fibroid

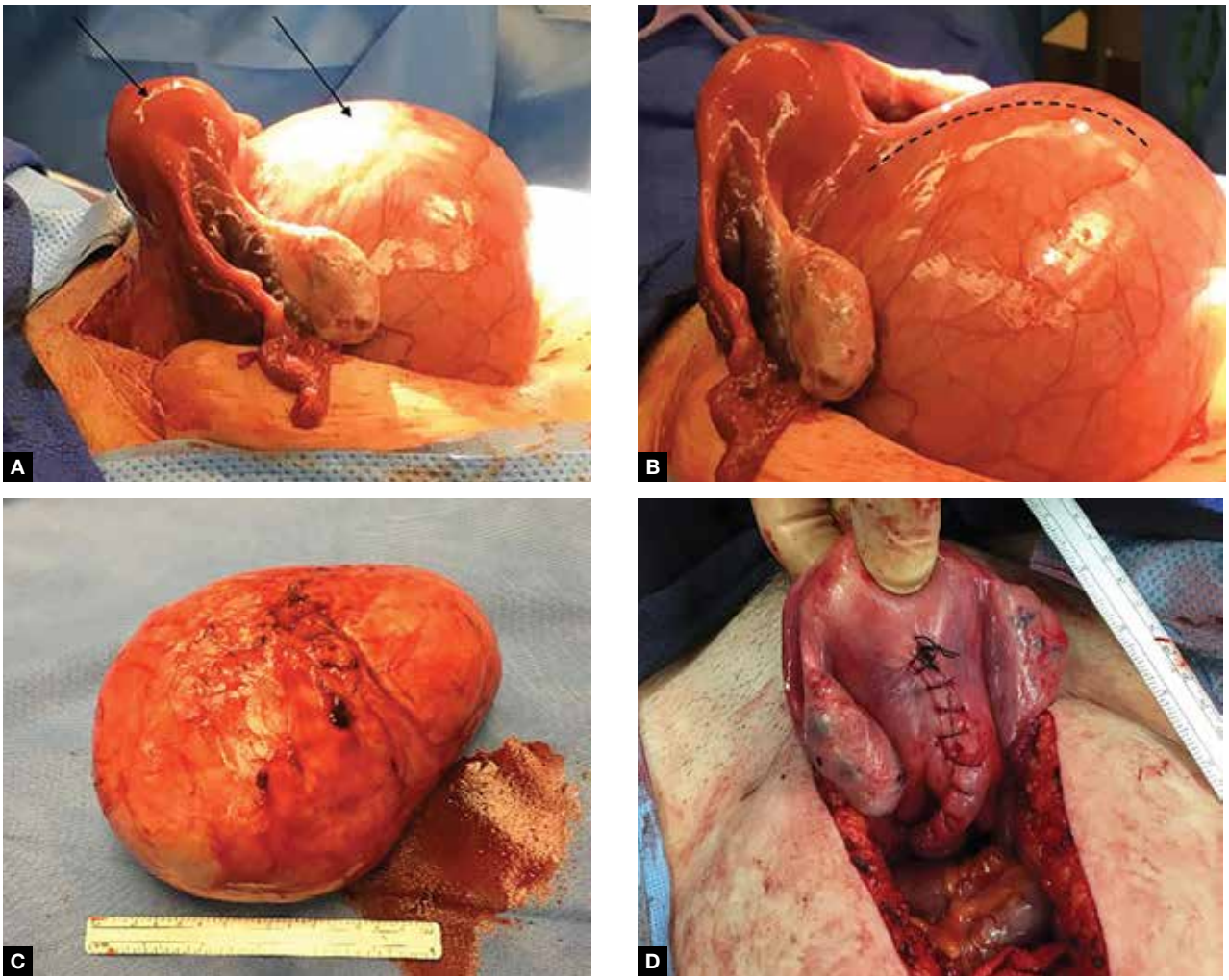


Transabdominal ultrasonography scan (**A**) and MRI scan (**B**) show a 20-cm fibroid that arises from the posterior uterus and extends inferiorly into the lower uterine segment and cervix.
Abbreviation: MRI, magnetic resonance imaging.

FAST TRACK

Preoperative strategy includes extensive counseling on the significantly increased surgical risks of myomectomy for a large fibroid and the possibility of unavoidable hysterectomy

FIGURE 2 Our procedures for removing a 20-cm cervical fibroid



(**A**) Vasopressin injection into the uterus and posterior aspect (arrows) of the fibroid. (**B**) A 10-cm incision (dotted line) made through the posterior lower uterine segment and fibroid serosa. (**C**) Intact removal of the capsule after "shelling out" the fibroid. (**D**) Closure of the fibroid capsule overlying the lower uterine segment and cervix, using 3 layers with 0-Vicryl (polyglactin 910) suture in a running, locking fashion.

conception following myomectomy. We counseled our patient to abstain from vaginal intercourse for 4 weeks, after which time she soon should attempt to conceive. Although there are no published data regarding when it is best to resume sexual relations following such a surgery, we advise a 1-month period primarily to allow healing of the skin incision. Any further delay in attempting to become pregnant may allow for the growth of additional fibroids.

Plan for future deliveries. When the myoma is extensively involved, such as in this case, we recommend cesarean delivery for future pregnancies to avoid the known risk of uterine rupture.[8] In general, we recommend cesarean delivery in future pregnancies if an incision larger than 50% of the myometrial thickness is made in the contractile portion of the uterus.

Final takeaway. Despite increased surgical risks, myomectomy of a large cervical fibroid is possible and can alleviate symptoms and improve future fertility. ●

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