Surgical Management of Leiomyomas for Fertility or Uterine Preservation

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Question 1:

Now that 35.9% of the adult population (Centers for Disease Control and Prevention. Health, United States, 2011) and 18.4% (Centers for Disease Control and Prevention. Prevalence of obesity in the United States, 2009-2010) of the adolescent population are considered obese, and since diet and obesity are probably risk factors, is the incidence of leiomyomas increasing? Does this account for the projected 23% increase in leiomyoma-related hospitalization and 30% increase in myomectomy by the year 2050?

Response from Drs. Falcone and Parker:

The reason for this increase is discussed in reference 4 of our article.1 It is thought to be due to the change in demographics in the United States.

Question 2:

Can adenomyosis in the presence of a leiomyomatous uterus be accurately diagnosed with ultrasonography, or is magnetic resonance imaging (MRI) necessary? How much does the size of the patient, the uterus, or both influence the accuracy of the imaging modality in this setting?

Response from Drs. Falcone and Parker:

An experienced radiologist would be needed to make the diagnosis of both conditions on ultrasound examination. MRI can make the diagnosis of both more reliably. MRI has the highest sensitivity for the diagnosis of adenomyosis. Abdominal ultrasonography is clearly influenced by body mass index (BMI), transvaginal ultrasonography less so, and MRI is not at all influenced by the size of the patient. However, the size of the patient may limit the ability to perform the MRI.
Question 3:

In what circumstances would myomectomy be the best option for a symptomatic patient not interested in future fertility?

Response from Drs. Falcone and Parker:

I think that if the patient wishes to retain her uterus at any age, regardless of desire for fertility, a myomectomy is appropriate. This is a discussion that needs to take place between the patient and her physician. However, retention of an organ is a common patient request.

Question 4:

Are there indications for myomectomy during pregnancy? If so, what approach should be used, and what precautions should be taken?

Response from Drs. Falcone and Parker:

Severe pain secondary to leiomyoma degeneration or torsion of a pedunculated leiomyoma would require myomectomy during pregnancy. Laparoscopic myomectomy for a pedunculated leiomyoma has been successfully performed in early pregnancy.

Question 5:

Some authors advocate ultrasound evaluation of the uterine scar in gravidas with a history of a prior cesarean delivery, particularly those planning a trial of labor. Is there benefit to surveillance of myometrial thickness during pregnancy following myomectomy, particularly in the setting of extensive removal of leiomyomas or a history of more than one myomectomy?

Response from Drs. Falcone and Parker:

No study has shown ultrasound monitoring to be effective. Serial MRI monitoring would be impractical and expensive. Recent data on rupture of the uterus in pregnancy concluded that “a prior myomectomy is not associated with higher risks of either uterine rupture or placenta accreta. The absolute risks of uterine rupture and accreta after prior myomectomy are low.” Therefore, serial ultrasound evaluation doesn’t seem practical.

Question 6:

There is at least one case report of an ectopic pregnancy in a myomectomy scar. What factors might influence the risk of this rare occurrence?

Response from Drs. Falcone and Parker:

Influential factors might include poor wound healing due to hematoma in the myoma bed, infection, or incomplete closure of the myometrium. However, it is impossible to know since these events are very uncommon, and hypothesis generation from a case report is highly speculative at best.
Question 7:
How do you remove prolapsing leiomyomas? Do you advocate injection of dilute vasopressin in this setting?

Response from Drs. Falcone and Parker:
I use vasopressin in the pedicle, if possible. If the pedicle can be identified, I put a suture ligature or a clamp around the pedicle, sever the leiomyoma, and then suture the base of the pedicle. If the pedicle is not visible or palpable, I incise the serosa and capsule of the myoma and enucleate it as I normally would.

Question 8:
What dosing regimen and route do you employ for preoperative misoprostol before hysteroscopic resection of leiomyomas?

Response from Drs. Falcone and Parker:
There are many trials on the use of misoprostol for cervical preparation before hysteroscopic surgery. A recent meta-analysis actually opined that there is insufficient evidence to recommend the routine use of misoprostol before every hysteroscopy. However, other recent studies have reported administering 400 mcg orally 12 hours before the procedure to be of value. Dr. Parker uses 800 mcg 3 hours before surgery. Dr. Falcone uses 400 mcg the night before the procedure, administered either vaginally or orally depending on patient choices.

Question 9:
Do you recommend routine saline-infusion ultrasonography or hysterosalpingography after hysteroscopic myomectomy to confirm the absence of adhesions prior to the patient initiating attempts to conceive? Is there a window when pregnancy rates are highest after myomectomy?

Response from Drs. Falcone and Parker:
There are no data but I prefer to perform an office hysteroscopy 7–10 days after hysteroscopic myomectomy to evaluate the cavity and gently lyse adhesions if they are present. There is no published, validated answer to your question about when pregnancy rates are highest after myomectomy. We recommended waiting three months to attempt pregnancy. The other side of the window would be the risk of new leiomyoma growth. According to studies by Donna D. Baird et al, the growth rates of leiomyomas are unpredictable, so we do not think there is a definable window.

References: