

Morcellation, ACOG, and shared decision-making

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The American College of Obstetricians and Gynecologists (ACOG) recently published an updated committee opinion regarding morcellation of presumed uterine leiomyoma.¹ The key points included in the recommendations are careful preoperative patient evaluation; patient counseling regarding risks and benefits of manual or electromechanical morcellation; the increased morbidity associated with open procedures; and, importantly, the recommendation for shared decision-making with each patient based on their individual medical condition, goals of treatment, risk of malignancy, and personal preferences.

The best estimate of the risk of a leiomyosarcoma (LMS) being found at surgery for a presumed fibroid comes from a thorough and sophisticated analysis of 156,726 women published by the Agency for Healthcare Research and Quality (AHRQ).² AHRQ is a division of the US Department of Health & Human Services with core competencies in data and analytics. Although the overall estimate based on these studies showed a range from 1 in 770 to 1 in 10,000, analysis of the best evidence using prospective studies found the risk to be

approximately 1 in 3000 women having surgery for fibroid-related symptoms.

Currently, we do not have reliable preoperative diagnostic testing to identify LMS. However, risk stratification can be improved using a patient's age, history, tamoxifen use, imaging, cervical cancer screening, endometrial tissue sampling, and lactate dehydrogenase (LDH) blood test (**Figure**). Studies show that women who are screened with a careful history (including age, bleeding pattern, and tamoxifen exposure) and clinical evaluation (endometrial biopsy/dilation and curettage, serum LDH, and MRI) are at very low risk of having a LMS morcellated.³

Although LMS can occur in younger women, the average age of women who receive a diagnosis of LMS is

approximately 60 years. Advancing age is a risk factor; however, no sudden increase in risk occurs after aged 50 years. Restricting access to a treatment option based on age alone is uncommon, and older women have greater morbidity from open procedures.⁴ Heavy menstrual bleeding is common among women with fibroids, but irregular menstrual bleeding and postmenopausal bleeding should be investigated with assessment of the endometrium with imaging and/or endometrial sampling. Atypical or malignant cells can be found with endometrial sampling in as many as 60% of women with LMS.⁵ MRI with and without contrast enhancement is the most accurate imaging modality to assess LMS. Solitary large masses, irregular borders, the presence of hemorrhage, increased contrast enhancement, and restricted diffusion all raise suspicion of LMS. LDH is an enzyme commonly found in cells but made in greater amounts by malignant cells. Total LDH and isoenzyme 3 have been found to be increased in some women with LMS.⁶

Figure. Risk Stratification for Leiomyosarcoma

HISTORY: postmenopausal bleeding, pelvic mass
premenopausal—fibroids, irregular bleeding, significant pain

MRI: solitary large mass, irregular borders, hemorrhage, increased contrast enhancement, restricted diffusion

LDH: increased total and isoenzyme 3

EMB: suspicious or malignant cells

EMB, endometrial biopsy; LDH, lactate dehydrogenase.

Morcellation describes a variety of techniques to cut tissue into smaller fragments that allow the tissue's removal from the abdominal cavity through small incisions. Morcellation can be done manually with a scalpel through the vagina or abdominal incision or with an electro-mechanical device through a laparoscopic port site. All types of morcellation may disseminate cells throughout the pelvic and abdominal cavities. Notably, uterine muscle spindle cells have been found in the abdomen prior to morcellation during open and laparoscopic myomectomy and laparoscopic hysterectomy.⁷⁻⁹ The use of a containment system to limit tissue dissemination has been cleared by the FDA. Containment systems have been shown to

leak and have not been shown to limit spread of LMS or influence survival for women found to have LMS.¹⁰



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Minimally invasive surgery has less morbidity and risk of death than open abdominal surgeries. Following the FDA's initial advisory for morcellation procedures, studies showed a decrease in minimally invasive surgery, a corresponding increase in open abdominal procedures, and an associated increase in complications, hospital readmissions, and patient deaths.^{11,12}

All medical decisions are based on an assessment of risks and benefits for an individual patient. Shared decision-making is a collaborative process of understanding the risks and benefits of treatment options (including

no treatment), open and minimally invasive approaches to surgery, and morcellation and contained morcellation. The appropriate option differs from patient to patient and depends on the patient's specific medical issues, assessment of risks, and the patient's preferences. These conversations take time, but important guidance can come from patient-centered discussions.¹³

Unfortunately for women with fibroids, the FDA analysis and warnings regarding morcellation are restrictive, not evidence based, and will commit many women to more morbid open procedures. Thank you to ACOG for suggesting a reasoned and reasonable patient-centered approach. ■

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