EDITORIAL

Premature Judgment of Uterine Morcellation: Look at the Data Before You Leap

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The benefits of laparoscopic (minimally invasive) surgery for gynecologic conditions requiring surgery are very clear and have been defined many times in the recent literature (1–3). The advantages include faster recovery, less blood loss, improved quality of life, and generally less morbidity. Hence, almost 50% of the inpatient hysterectomies done each year in the United States are done via laparoscopy (4). Additionally, many women benefit from other minimally invasive surgeries including diagnostic laparoscopies and myomectomies.

Given the widespread use and benefits of laparoscopy, technology has developed to make the process more efficient and solve some of its challenges. One notable challenge was cases in which the uterus is too large to be removed through the laparoscopic incision and would otherwise need to be removed via a large laparotomy incision (5,6). This problem was solved by development of morcellation, which breaks the tissue into smaller pieces and can either be done manually with a scalpel or electromechanically with a power morcelator.

Morcellation, for which the US Food and Drug Administration (FDA) first approved devices in 1995, enjoyed rapid acceptance through the late 1990s and up until 2014. At this time, reports were published describing morcellation-mediated dissemination of unrecognized malignancies within the uterus. This raised concerns that such dissemination could facilitate cancer recurrence and be associated with decreased survival. These concerns were brought to the attention of the media by a tragic case of uterine leiomyosarcoma discovered in a young woman who underwent intra-abdominal morcellation of an unrecognized sarcoma and subsequently developed widely metastatic disease. In light of such reports, the FDA issued a statement discouraging the use of power morcellation for hysterectomy and myomectomy (7).

As a result of the FDA statement, electric power morcellation has been virtually discontinued except when performed in a containment bag. Fearing litigation, the companies making power morcellators have discontinued sales of their products or have placed warnings on their product. Additionally, hospitals have limited the use of morcellation. However noble the goals, these decisions have been made in the absence of analysis of the existing data about the balance of benefits and potential harms of morcellation (8).

The most common unrecognized uterine malignancy is sarcoma, and in its statement the FDA estimated that one in 352 women undergoing hysterectomy for a myomatous uterus had an unsuspected sarcoma. The largest subgroup (accounting for 45% of cases) of uterine sarcomas is leiomyosarcoma (9,10), which has an overall five-year survival rate of 49% (8,10). No one really knows how much morcellation really increases the mortality. However, women who were explored immediately after morcellation with a leiomyosarcoma had a 29% to 57% risk of having disseminated disease (11,12). Although the likelihood of having an unrecognized malignancy is small, the possibility of dissemination if it exists is real and the consequences of disseminating an unrecognized malignancy may be catastrophic. Thus, it is important that we use data to define the conditions under which morcellation should or should not be used.

In this issue of the Journal, Wright et al. begin to help us assess the real risk of dissemination of malignancy and determine the benefits and risks to women who might choose to undergo a laparoscopic procedure for treatment of uterine fibroids (13). The authors used a cohort simulation model to compare the risks and benefits of three modalities of hysterectomy: 1) total abdominal, 2) laparoscopic, and 3) laparoscopic with the use of an electric power morcelator to facilitate removal of the uterus. They simulated predicted rates of unrecognized cancers and stratified their data according to age. They found that overall the safest surgical modality—resulting in the least number of intra-operative and perioperative complications, readmissions, and death—is laparoscopic hysterectomy without morcellation. This was especially true for women older than age 60 years. However, for women younger than age 40 years, laparoscopic surgery with morcellation was associated with slightly fewer deaths per 10 000 patients than abdominal hysterectomy.
The article by Wright et al. (13) helps us more specifically categorize the risk to patients by taking into account both the risk of dissemination of malignancy and the risks of the alternative procedure, abdominal hysterectomy. More data such as those produced here are needed to better define the real risk so that women give informed consent before undergoing a procedure. Additionally, as other techniques such as morcellating the uterus in a containment bag (14,15) become more common, we should obtain data on their safety and efficacy.

All patients need to be counseled regarding the risks and benefits of different treatment options so that they can give truly informed consent. We must remain dedicated to ensuring the highest quality of care for women by having the best data available, such as those presented by Wright et al. (13), to counsel our patients. We owe it to them to accurately assess and evaluate the risks and benefits of new technologies, thus allowing them to make the best decision for themselves.

References