

FIBROID UTERUS MANAGEMENT

Fibroids can cause numerous symptoms which suggest the need for intervention: 1.) Compression, 2.) Intractable pain, 3.) Significant abnormal bleeding, and 4.) Significant dysmenorrhea. Compressive symptoms include tenesmus, or posterior pressure on the rectum causing the patient to persistently feel the need to defecate. Compression anteriorly on the bladder decreases bladder volume and leads to urinary frequency. Compressive symptoms worsen with increasing uterine volume.

Intractable pain results from infarction of a myoma where growth of the tumor outstrips angiogenesis or ability to perfuse the growing muscle mass. Treatment with non steroidal anti-inflammatory drugs and narcotics may not result in symptomatic improvement.

Significant abnormal bleeding, particularly related to submucous myomas, involves increase in duration of menses and increase in volume of blood lost. Increased blood loss ultimately can deplete the body's iron stores and leads to hypochromic, microcytic anemia (iron deficiency anemia).

Significant dysmenorrhea results from anoxia secondary to prostaglandin-mediated vasoconstriction. Relief of severe dysmenorrhea may not always be achievable with non-steroidal anti inflammatory drugs. Habituation to narcotic analgesics is a potential side effect of prolonged palliative management.

A variety of management and therapeutic options are presented and contrasted for uterine fibroids. Palliation is certainly a reasonable option. Fibroid is not a mortal event. Fibroids do not turn into cancer. There are approximately 999 fibroids for every single sarcoma. It is likely with the onset of menopause that a patient will have reduction in volume of the myoma and cessation of bleeding and dysmenorrhea. A patient near menopause may well choose to palliate her condition and seek symptomatic relief with non-steroidal anti-inflammatory drugs or other analgesics and take vitamins and iron.

The role of medical management for fibroid uterus is tenuous. There is probably no role in administering birth control pills to a woman with a large myoma as the discomfort related to the menses is unlikely to improve. The likelihood also is that even placing a progesterone IUD may not significantly decrease the quantity of menstrual flow, the duration of the flow, or the attendant secondary dysmenorrhea associated with the periods. These methods do not treat the underlying fibroid.

Lupron is another option. Lupron is a palliative measure. Lupron's role is not to cure the myoma or to, in a long term sense, decrease the volume of the myoma. Lupron will only decrease in the short term the volume of myoma potentially converting an abdominal procedure to a minimally invasive procedure. Cost of therapy, inconvenience of putting off definitive treatment and the likely onset of menopausal, vasomotor symptoms and vaginal dryness likely offset any incremental easing of surgical difficulty attendant on the expected twenty percent volume reduction of the uterus.

Surgical options for fibroid tumors include open and closed myomectomy, operative hysteroscopy (appropriate for submucous myomas only) and open and closed hysterectomy. Other alternative options include embolization of fibroids under the care of an interventional

radiologist. Radio frequency ablation of myomas is another alternative offered by interventional radiologists. A recent study by van der Koojj, et al, demonstrated embolization and surgical treatment (myomectomy or hysterectomy) had similar short term results. Long term, high re-intervention rates were associated with embolization. [1]

Various gynecological surgical options are available.

Laparoscopic myomectomy conserves the uterus while only removing the myoma(s). Myomas tend to be multifocal and they tend to be recurrent and removing currently detected myomas may not be represent the end of surgeries required for uterine leiomyomata in a patient's lifetime. Further, future lesions may require even more extensive surgery complicated by the first in the potential adhesive disease that accompanies invasive therapy. Catastrophic bleeding is sometimes related to myomectomy and, in general, myomectomy can have a higher attendant blood loss than hysterectomy. If hemostasis cannot be achieved in the course of a myomectomy with reasonable measures, then either laparoscopic supracervical hysterectomy, complete laparoscopic hysterectomy or even open hysterectomy may be required. There is no way to warrantee the results of surgery or warrantee a surgical approach and that exigencies presented intra-operatively by a patient's anatomy and other findings may necessitate opening as apposed to performing the procedure in a minimally invasive / laparoscopic sense. Myomectomy, even if successfully performed, may not completely eliminate a woman's periods, her dysmenorrhea or other related issues.

The same discussion regarding recurrence and potential need for more invasive surgery applies if operative hysteroscopy is contemplated to treat submucous myomas.

Laparoscopic supracervical hysterectomy allows a woman to eliminate the myoma(s) and the entire uterine corpus while maintaining her cervix and the attached pelvic supports (e.g., utero-sacral ligaments and cardinal ligaments). With this approach hemostasis is often easier to achieve because dissection into the well vascularized myometrium is not conducted. With this approach post-operatively the patient can expect complete secondary amenorrhea and absence of cramping associated with the menses. By retaining the cervix this surgery in no way will alter a woman's lifetime risk of cervical dysplasia or neoplasia and regular Thin Prep cervical cytology examinations will be required.

Complete laparoscopic hysterectomy allows a patient to eliminate the myoma and the entire uterus. With this approach there is an increased likelihood of injury to urinary tract as dissection is more proximate to ureters and urinary bladder. Complete secondary amenorrhea is achieved with elimination of dysmenorrhea too. The lifetime risk of cervical cancer is virtually eliminated (save potential for disease developing from minute foci of retained cervical tissue post-operatively).

Summary of options for uterine fibroids--

Treatment	Optimal Patient	Advantages	Disadvantages
Observation	Asymptomatic Late menopause transition and tolerable symptoms	Minimal risk Avoid intervention	Intermittent monitoring required Symptoms may progress
Levonorgestrel IUD	Menorrhagia and relatively normal uterine cavity	Avoid surgery Reduce menorrhagia	No improvement of bulk symptoms Prevents pregnancy May lose string as uterus enlarges
Medical Management	Temporarily reduce symptoms Endometrial preparation for hysteroscopy	Correct preoperative anemia Option for late menopause transition	Temporary Medication side effects
Hysteroscopic Myomectomy	Submucosal fibroids Menorrhagia Infertility	High efficacy Rapid recovery	No improvement of bulk symptoms Possible incomplete resection Larger mass may require > 1 procedure
Abdominal Myomectomy	Desires fertility preservation Desires uterine preservation	Remove most or all fibroids Enhance fertility Improve symptoms	Intraoperative bleeding Postoperative recovery Recurrent fibroids Adhesions Cesarean delivery May need subsequent surgery
Laparoscopic Myomectomy	Most surgeons: < 3 tumors and < 10 cm Desires fertility preservation Desires uterine preservation	Same as abdominal myomectomy except: Less adhesions Faster recovery	Steep learning curve Recurrent fibroids Adhesions Cesarean delivery May need subsequent surgery
Endometrial Ablation	Minimal cavity distortion Menorrhagia Benign endometrium	Rapid recovery High efficacy for menorrhagia Low recurrence rate	Precludes future fertility No improvement of bulk symptoms
Uterine Artery Embolization	Post childbearing Poor surgical candidate Desires uterine preservation	High efficacy for menorrhagia Improved bulk symptoms Lower short-term risk compared to hysterectomy	Compromised pregnancy outcomes compared to myomectomy May require hysterectomy for recurrence Post-procedural pain
MRgFUS	Post childbearing Desires uterine preservation Uterus < 24 week size	Improved quality of life Rapid recovery Low risk	Less shrinkage than UAE Limited long-term data Limited pregnancy data Limited availability
Hysterectomy	Definitive treatment Suspected malignancy Concurrent surgery	Only definitive treatment Good long-term outcomes	Precludes future fertility Surgical complications

References

1. Van der KoojSM, Bipat S, Hehenkamp WJK, et al. Uterine artery embolization versus surgery in the treatment of symptomatic fibroids: a systematic review and metaanalysis. *Am J Obstet Gynecol* 2011;205:317.e1-18.