



FERTILITY CENTER

Pathway to Parenthood

Joel Batzofin, M.D.

Laguna Niguel Office

27882 Forbes Road Suite #200 Laguna Niguel, CA 92677

Phone: (949) 249-9200 Fax: (949) 249-9203

Mission Viejo Office

26800 Crown Valley Parkway Suite, 560

Mission Viejo, CA 92691

Tel (949) 249 9200

Fax (949) 249 9203

Bakersfield Office

2225 19th Street

Bakersfield, CA 93301

Tel (661) 326-8066

Fax (661) 843-7706

FIBROID TUMORS OF THE UTERUS

Introduction

The uterus is composed of a thick layer of smooth muscle (myometrium) surrounding a thin lining (the endometrium) into which the embryo implants and which serves to protect and nourish a growing pregnancy. It is the thin endometrium which is shed each month during the menstruation, if pregnancy does not occur. Some have stated that it is as though the uterus “weeps tears of blood in mourning” for the fact that conception did not take place in the cycle. In other words, all hormonal events of the menstrual cycle have a single purpose in mind – namely successful conception. Approximately 20-40% of all reproductive age women will develop benign growths of the myometrium, referred to as a fibroid tumor (aka myoma or leiomyoma). These tumors are rarely malignant (see below). They can be located in the wall of the uterus (intramural), on the outside of the uterus (subserosal), within the uterine cavity (submucosal), on a thin stalk (pedunculated) or any combination of the above. They are hormone dependent lesions and estrogen causes them to grow. African and African American women seem to have a much higher incidence of fibroid tumors. This is indicative of the fact that their cause has a fundamental genetic basis. Most fibroids start as very small lesions (sometimes referred to as “seedling fibroids”) and they can grow to very large sized lesions. Fibroids as large as watermelons have been reported in the literature. The impact of fibroid tumors on successful reproduction is largely related to location (see below).

Presentation, Symptoms and Signs associated with Uterine Fibroid Tumors

Fibroid tumors, even large ones, can occur without producing any symptoms at all (asymptomatic). However they can also cause a variety of symptoms depending on their size, location and the absence or presence of complications such as torsion (twisting) or degeneration (such as might occur when a fibroid grows so fast that it starts running out of its blood supply). The most common symptoms are heavy cyclical menstrual bleeding (menorrhagia) accompanied by menstrual pain (dysmenorrhea). Sometimes, especially when a fibroid protrudes into the uterine cavity, it can cause erosion of the endometrial lining and produce irregular or continuous bleeding (menometrorrhagia).

Sustained non-menstrual pelvic pain may point to torsion of a pedunculated fibroid that is attached to the inner or outer wall of the uterus, or to degeneration. Other possible symptoms include pain with deep penetration during intercourse (deep dyspareunia), bladder irritability, rectal pressure, constipation and painful bowel movements (dyschezia). If a fibroid undergoes degeneration, it can become secondarily infected and in addition to pain, the patient may have fever and chills.

Effect of Fibroid Tumors on Reproduction

For the most part, only those fibroids that impinge upon the endometrial cavity (submucosal) affect fertility. Exceptions include large intramural fibroids that block the openings of the fallopian tubes into the uterus, and where multiple fibroids cause abnormal uterine contraction patterns. Another lesion that can cause significant problems is the one that grows off the back side of the uterus and occupies to a greater or lesser degree, the cul de sac (area behind the uterus). This location is very important in the physiology of conception, therefore it is not uncommon to see patients with these kinds of lesions present with infertility. Surgery to treat fibroids can also affect fertility in several ways. If the endometrial cavity is entered during the surgery, there is a possibility of post-operative adhesion formation within the uterine cavity. This should always be checked for through the performance of a hysteroscopy or fluid ultrasound prior to beginning fertility treatment. Myomectomies often involve significant bleeding at the time and site of removal, therefore there is a high likelihood of abdominal adhesion formation; this could encase the ovaries, preventing the release of the eggs or block the ends of the fallopian tubes, or otherwise interfere with the normal functioning and relationships of the pelvic organs. For this reason, it is important that only accomplished surgeons, who are familiar with techniques to limit blood loss and prevent adhesion formation, perform myomectomies.

In some cases multiple uterine fibroids may so deprive the endometrium of blood flow, that the delivery of estrogen to the uterine lining (endometrium) is curtailed to the point that it cannot thicken enough to support a pregnancy. This can result in early 1st trimester (prior to the 13th week of pregnancy) miscarriages. Large or multiple fibroids, by curtailing the ability of the uterus to stretch in order to accommodate the spatial needs of a rapidly growing pregnancy, may precipitate recurrent 2nd trimester (beyond the 13th week) miscarriages and/or trigger the onset of premature labor. As stated above, the location of the lesions is very important in the symptoms/impact. A lesion positioned just beneath the endometrial lining can make the structural integrity of the endometrium quite unstable and the therefore, unable to develop in a progressive manner in preparation for implantation of the embryo.

Diagnosis

Sizable fibroid tumors are usually easily identified by simple bi-manual vaginal examination. Very small fibroids, however, can be identified by transvaginal ultrasound. Sometimes it is difficult to tell if a fibroid is impinging on the endometrial cavity. In such cases, a hysteroscopy (where a telescope like instrument, is inserted via the vagina into the uterine cavity), a hysterosonogram (where injected fluid, distends the uterine cavity allowing for examination of its contour and inner configuration) can help distinguish between intramural and submucosal. Magnetic Resonance Imaging (MRI) can be used to distinguish

between fibroid tumors and a related condition called adenomyosis, in which diffuse or localized foci of endometrial tissue can be found within the myometrium. Given the often-diffuse nature of adenomyosis, it is difficult to remove surgically. This contrasts with fibroid tumors, which are well defined and are usually relatively easily removed at surgery.

Surgical Treatment of Fibroid Tumors

The mainstay for the treatment of fibroid tumors is surgical removal (myomectomy). Small, asymptomatic fibroids that do not impinge upon the endometrial cavity will usually not require treatment other than observation and vigilance. Large fibroids and submucosal fibroids may need to be removed prior to starting fertility treatments such as In Vitro Fertilization (IVF) in order to decrease the chance of implantation failure, miscarriage, pregnancy complications (growth and degeneration) and premature labor. Intramural and subserosal fibroids are readily removable either by laparoscopic resection or via an abdominal incision. The former allows for a more rapid convalescence and is ideal for the removal of small and accessible superficial fibroid tumors, while the latter approach is preferred for treating larger and less accessible fibroids.

Regardless of whether the laparoscopic or abdominal approach is employed, adequate layered closure of the uterine wall is essential in order to reduce the subsequent risk of uterine rupture during pregnancy or labor. This is one of the main arguments used against the use of laparoscopic removal of large, multiple or remotely situated fibroids. While laparoscopic myomectomy requires but a few days (at most) for post-operative convalescence, abdominal myomectomy usually requires 6-8 weeks of recovery time. When myomectomy necessitates or results in the uterine cavity being entered (purposefully or inadvertently), it should be followed up with a “2nd look” hysteroscopy to rule out scar tissue formation, which occurs frequently in the presence of submucosal fibroids.

Uterine polyps (and in some cases, also submucosal fibroids), can often be removed hysteroscopically (through the vagina). This eliminates the need for abdominal surgery and greatly reduces the recovery time. Hysteroscopic surgery is only useful if the majority of the fibroid protrudes into the endometrial cavity, ensuring that the tumor defect will not be too large. This surgery is often done under laparoscopic guidance, to reduce the risk of uterine perforation. After hysteroscopic surgery it may be necessary to leave a small balloon in the cavity during healing to prevent adhesion formation and it is often advisable to prescribe cyclical hormonal therapy for a few months to encourage regeneration of the endometrial lining over the area of tumor defect and healing of the uterine muscle. A 2nd look hysteroscopy should be performed a few months later, to rule out scar tissue formation even if it means delaying or deferring the initiation of definitive fertility treatment.

Medical Treatment for Fibroid Tumors

The growth of fibroid tumors is estrogen-dependent. Thus when a woman enters the menopause and stops making female hormones, fibroids tend to shrink in size on their own. Conditions that mimic menopause can also reduce the size of fibroid tumors. The most common of these treatments is with a

medication such as lupreulide acetate (Lupron), which shuts off the communication of the brain with the ovaries, preventing hormone production. However, this type of medication can only be taken for a limited period (usually 6 months) and once the medication is stopped the fibroids will usually regain their original size within a few months. The medication is therefore only a “temporary fix,” used primarily to decrease the size of large fibroids in order to make their ultimate surgical removal easier or to help a woman bridge the gap until spontaneous menopause sets in. For the majority of women there is no major benefit from Lupron therapy prior to surgery. Many patients with large submucous lesions may have heavy periods and thus be anemic due to iron deficiency. If this is found, it may be prudent to place the patient on Lupron therapy prior to her surgery, giving a chance for the anemia to correct itself (with supplemental iron administration), such that the patient will enter surgery in a non-anemic state. This will greatly facilitate the post-operative recovery period. Other medical treatments for fibroids include oral contraceptive pills, other types of hormonal birth control methods and progestin-releasing intrauterine devices.

Embolization of Fibroid Tumors

Myomectomy always carries the small risk of severe, uncontrollable intra-operative bleeding mandating the performance of a hysterectomy (complete removal of the uterus), as a life saving measure. Moreover, some women are poor surgical candidates for surgery. This is where a newer procedure known as uterine artery embolization (UAE) may be used. UAE is a procedure in which small particles are injected into the arteries of the uterus under radiological guidance to shut off the blood supply to the fibroids, in the hope that they will shrink and perhaps even disappear.

UAE is relatively new to the field of gynecology and little is known about its potential effects on future fertility. There is some concern that in the process of shutting off the blood supply to the uterus, it will permanently reduce endometrial blood flow, as to compromise embryo implantation. For this reason, we currently do not recommend this therapy for a woman who still wishes to conceive and carry a gestation in her own uterus. At present it is best suited for symptomatic women who are finished with their childbearing or who are planning to use a gestational surrogate.

Malignant Change in Fibroid Tumors.

Fibroids rarely undergo malignant change. The reported incidence is less than 1:2000.

Fibroids usually grow very slowly (over a number of years). However, when growth occurs rapidly over a month or two, especially in older women who have large fibroids, it should raise the suspicion of this very rare but extremely serious complication.

Summary

Uterine fibroids are common (found in 5-10% infertile women). Certain types of fibroids may interfere with fertility, particularly those that are inside of the uterine cavity. Most women with fibroids, however, are not infertile, therefore a thorough infertility evaluation must be completed. An analysis of risks and benefits need to be carefully considered by an experienced clinician.

Note: a [full-length educational video](#) has been developed by American Society of Reproductive Medicine. It answers patient questions about the causes, symptoms, diagnosis and management of uterine fibroids.

Free access at www.reproductivefacts.org

Rev: 09/13

This handout is intended as an aid to provide patients with general information. As science is rapidly evolving, some new information may not be presented here. It is not intended to replace or define evaluation and treatment by a physician.