Uterine Fibroids

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A fibroid is a non-cancerous growth on the uterus. Fibroids may go by many names, such as leiomyoma, leiomyomata, or myoma. Fibroids are the most common pelvic tumor in women. Studies show that as few as 5% and as many as 77% of the all adult women have them. Fibroids are overgrowths of muscle tissue within the uterus. These growths are areas of muscle within the uterus that can be microscopic or many centimeters in size. Fibroids may go unnoticed by patients, or they may cause many bothersome symptoms; this largely depends on size and location. Fibroids are not a type of cancer and it is very rare for fibroids to develop into a cancer of the uterus.

Risk Factors

The exact cause of fibroids is unknown, but research has identified risk factors and associations. Fibroids can affect women of all ages, but become more common as you get older. Ethnicity and genetics may play a role. African American women are more likely than others to be affected by fibroids. Family history is also a risk factor for developing fibroids. Obesity and never being pregnant may also lead to a higher risk of getting fibroids.

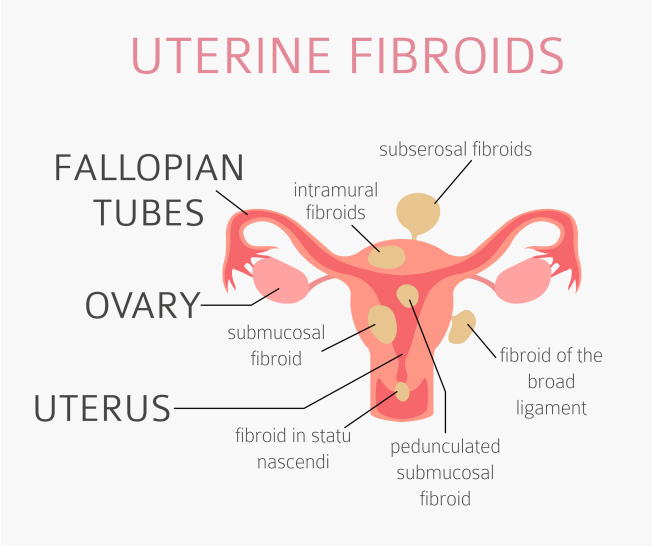

Figure 1: Fibroids can be located in various places within and around the uterus.

Anatomy

The location of fibroids is in relation to the wall of the uterus (see Figure 1). Fibroids can be located in the cavity of the uterus. These are called submucosal fibroids. Fibroids can also grow in the wall of the uterus (intramural) or they can grow just under the outside surface of the uterus (called subserosal fibroids). Fibroid location plays a role in the symptoms patients have. For example, submucosal and intramural fibroids are more likely to cause heavy bleeding with periods. Subserosal fibroids are more likely to cause pressure symptoms or discomfort in the pelvis or abdomen. The type of fibroid you have will lead to the type of treatment offered. The goal of treatment is to help your symptoms.

Symptoms

Symptoms that fibroids may cause varies based on each individual person. Some of the more bothersome symptoms that fibroids cause are heavy bleeding and pressure. Fibroids can cause prolonged and painful periods. The heavy bleeding caused by fibroids can lead to anemia (low blood volume) requiring blood transfusions. This is frequently the reason patients seek treatment.

One of the other reasons patients may seek treatment is because of bulk-like symptoms from the size of fibroids. Fibroids can lead to feelings of pelvic pressure or general abdominal and pelvic fullness depending on the size. When the bulk of the fibroid becomes large enough, organs next to the uterus can be affected, like the bowel and bladder. Urinary frequency and difficulty emptying the bladder can occur with large fibroids. Additionally, but rarely, very large fibroids can cause urinary obstruction (trouble emptying your bladder). Very large fibroids may also cause constipation. Fibroids can also outgrow the blood vessels supplying them, which causes degeneration of the mass, and can be very painful. Some fibroids can cause pelvic pain not related to periods or can cause pain with intercourse, depending on the location.

Some patients may have no symptoms, but a fibroid may be found when checking for something else, like infertility. Fibroids that distort the inside of the uterus can affect the ability to get pregnant. Fibroids may also cause early pregnancy loss (miscarriages) or other problems with pregnancy, such as:

- fetal positions that make labor more difficult (such as breech, or feet first)
- premature (early) labor and birth
- troubles with the fetus growing
- Problems with the placenta

Tests

There are a few tests that doctors can use to see if a person has fibroids, and to see how big they are. The most common study is ultrasound. Ultrasounds can be performed vaginally or through the abdomen. This can be the quickest and most convenient study, as it is available in

many doctors' offices. Ultrasound can see the size, location and number of fibroids in the uterus. 3D ultrasound can also be used in the office to see how big a fibroid is.

Ultrasound can also be combined with fluid or contrast inside of the uterus, called sonohysterography. This test can be very helpful for seeing fibroids that grow on the inside of the uterus. It can also help determine treatment plans (like hormonal therapy or surgery).

Magnetic Resonance Imaging (MRI) can also be used to see the size, location, and number of fibroids in a uterus. This test is more costly and more time consuming than ultrasound. MRI can be very useful for treatment planning if surgery is recommended or when there are very large or multiple fibroids.

Computed Tomography (CT) is usually not used for imaging of fibroids because the other methods listed above are better. If a CT has been performed for another reason, CT can be a reasonable choice for the first diagnosis. CT is typically not used for treatment planning.

Treatment Options

The treatment options for fibroids depend on the symptoms caused by the fibroid(s). These options include:

- watchful waiting (waiting for symptoms to get better on their own)
- medications
- implants (ex. IUD)
- interventional radiologic procedures (uterine fibroid embolization)
- surgery

Intrauterine Device (IUD)

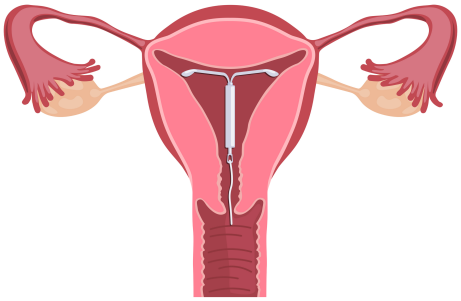

Figure 2: A progesterone-containing IUD may help reduce symptoms

Medication options typically treat the heavy bleeding caused by fibroids. There are many types of medications that can be used. Nonsteroidal, anti-inflammatory medications (e.g. ibuprofen, motrin, naproxen) are generally first options to help with bleeding. They also help with pain with periods.

Hormonal medications can be used to treat bleeding symptoms. The hormonal options include combined estrogen-progesterone medications like birth control pills, as well as other hormonal preparations. Medications may help for some time, but are often not long term solutions, and surgery may be needed later.

Progesterone implants can also help with bleeding symptoms of fibroids. The progesterone-containing intrauterine system (IUS or IUD) is the most commonly used device to help manage

bleeding symptoms. The IUS or IUD is a device that is placed inside the uterus by a healthcare provider (see Figure 2). It can be left in for multiple years depending on the device that is used. The IUS may not be an option for every person, depending on size and shape of the fibroid. Progesterone injections or pills can also treat heavy or irregular bleeding.

Interventional radiology is a newer area of treatment offered for patients with fibroids. These options can be done in your doctor's office or a minor surgery center. The two main options for treatment are uterine artery embolization and magnetic resonance focused ultrasound surgery (MRgFUS). Both of these options are minimally invasive and performed by a trained radiologist. Both options can reduce the fibroid size. They often help with symptoms. In uterine artery embolization, a catheter is placed into the patient's blood system to identify the blood supply to the uterus. It blocks the blood supply to cause the fibroid(s) to shrink. The MRgFUS procedure uses ultrasound energy to destroy fibroid tissue. It reduces the overall size of fibroids. These options should not be considered if the patient wants to get pregnant in the future.

There are multiple types of surgeries for fibroids, depending on the goals of the patient. One of the most minimally invasive options for managing bleeding is an endometrial ablation. This surgery destroys the inside lining of the uterus. It may lighten or stop heavy bleeding. A myomectomy is a procedure where a surgeon can remove just the fibroid, but leave the uterus intact following the procedure. This can help with bleeding symptoms and bulk symptoms. It can also help with fertility. It can be done through the vagina and inside of the uterus, or through the abdomen.

Hysterectomy is the last option for a fibroid uterus. A total hysterectomy involves removal of the entire uterus and cervix. This would successfully remove all fibroids as part of the procedure. After the hysterectomy, patients will no longer have menstrual bleeds. They will also have relief of the bulk symptoms caused by fibroids. After a hysterectomy, a person will not be able to get pregnant.

Myomectomy and hysterectomy can be performed in a variety of ways, depending on the location of the fibroids and the symptoms. If a surgery is done inside the uterus or vaginally, it is typically done without any incisions on the abdomen. If the recommended surgery is laparoscopic or robotic, the surgery will involve multiple small (0.5-1.5cm) incisions on the abdomen. If an open or abdominal approach is necessary, there is a larger incision (~10cm or greater) made on the abdomen.

Take Home Points:

- Fibroids are benign tumors and are not cancer of the uterus.
- Fibroids can go unnoticed by patients for years.
- Some fibroids cause problems with heavy menstrual bleeding (periods) or with symptoms of pelvic bloating or pressure.
- Fibroids can be treated with a number of different medical or surgical options. You can talk to an Obstetrician-Gynecologist (OBGYN) about these options.

Additional Resources:

- Office on Women's Health: https://www.womenshealth.gov/a-z-topics/uterine-fibroids
- American College of Obstetricians and Gynecologists: https://www.acog.org/Patients/FAQs/Uterine-Fibroids

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No conflicts of interest.

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