

Fibroids in Perimenopausal and Menopausal women

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What are fibroids?

Fibroids are innocuous estrogen dependent benign tumours occurring in the uterus.

What are the symptoms caused by fibroids?

In a large majority of patients, fibroids are asymptomatic, being diagnosed incidentally on ultrasonography, done for some other purpose. Only 20% to 50% of women with myoma are symptomatic (1) .

The symptoms directly related to the presence of leiomyoma or fibroid are:

1.Menorrhagia. When fibroids are situated in any location near the endometrial cavity, it may increase the surface area of endometrium shed, leading to menorrhagia. It is not the size of the tumour, but its proximity to the endometrium that is important in causing menorrhagia. Dysregulation of local growth factors could also cause vascular abnormalities which could cause abnormal uterine bleeding. (2)

Although menorrhagia is the most common manifestation of abnormal uterine bleeding in fibroids, there could be other presentations, like intermenstrual spotting or post coital bleeding, also. Hypermenorrhea may also be enhanced by the presence of an endometritis, which is a frequent histologic finding within the endometrium.

2.Pelvic pressure: Large tumours could lead to pelvic discomfort, Myomas in the broad ligament may cause unilateral lower abdominal pain, or may cause sciatic nerve pain.

3.Bladder symptoms: Myomas that compress the bladder can cause urinary symptoms of urgency or increased frequency. There could be other features like, outflow obstruction, and ureteral obstruction with hydronephrosis

4.Constipation: Myomas found on the posterior aspect of the uterus may disrupt defecation.(surgical clinics). This could be due to pressure effect of fibroid on rectosigmoid.

5. Infertility: Submucosal and intramural fibroid tumours that distort the uterine cavity can impair fertility.

How are fibroids diagnosed?

Fibroids can be diagnosed by clinical examination, but it is at best, a presumptive diagnosis. An enlarged uterus, irregular in multiple fibroids, firm on palpation, is suggestive. Any mass in the pelvis that moves with the uterus, is suggestive of fibroids, as a differential diagnosis of ovarian masses, which generally do not move with the uterus.

An ultrasonography will clinch the diagnosis.

Sonohysterogram may be useful in diagnosing submucosal fibroids. In this procedure, the uterine cavity is filled with saline, before doing sonography. This delineates small masses near the endometrium, which may otherwise have been missed on ordinary ultrasonogram.

MRI is preferred when precise myoma mapping is required (usually for surgical purposes), but it is the most expensive modality for evaluating fibroid tumors.

Hysteroscopy is useful in diagnosing submucous myomas, but it is invasive and is probably useful only if a concomitant surgical procedure of hysteroscopic myomectomy is planned on diagnosis.

How can you diagnose if the fibroid like lesion on imaging modalities is a fibrosarcoma?

Rapid growth of the tumour is indicative of a malignant lesion. Any enlarged uterus in a postmenopausal woman not known previously to have fibroids should alert one to the possibility of fibrosarcoma. MRI can show irregular margins in fibrosarcoma, instead of regular margins in ultrasonography. There is evidence that combining dynamic MRI (i.e., MRI enhanced by gadopentetate dimeglumine) and measurement of serum lactate dehydrogenase levels is useful in distinguishing leiomyosarcoma from benign fibroid tumors.

What happens to fibroids after menopause?

Myomas commonly regress after menopause, which is accompanied with an atrophic endometrium and cessation of uterine bleeding. Postmenopausal women on hormone therapy, however, may experience

persistence of abnormal uterine bleeding. It has been reported that postmenopausal women with submucosal myomas using hormone therapy experience a twofold increase in the incidence of abnormal bleeding as compared with the women with no submucosal myomas.

Which are the fibroids that need be treated?

Only fibroids which cause symptoms need positive treatment. Asymptomatic fibroids seen incidentally on ultrasound need not be treated if they are small in size. Studies of myoma treatments have found no significant change in uterine size or myoma volume over 6–12 months of follow-up in placebo arms. A nonrandomized study of women who had uterine size of R8 weeks and who chose hysterectomy or watchful waiting found that 77% of women choosing observation had no significant changes in the self-reported amount of bleeding, pain, or degree of bothersome symptoms at the end of 1 year. Therefore, for some women with myomas who are mildly or moderately symptomatic, watchful waiting may allow surgery to be deferred, perhaps indefinitely. As women approach menopause, watchful waiting may be considered, because there is limited time to develop new symptoms and, after menopause, bleeding stops and myomas decrease in size (3). When the size of the uterus is more than 12 weeks, even asymptomatic fibroids are usually tackled, as they interfere with imaging of ovaries due to the size of the tumour and thus early ovarian lesions may be missed. Similarly, fibroids, which due to their proximity to the ureter cause hydronephrosis need be tackled.

What are the medical options available in a patient with fibroid?

Gonadotropin releasing hormone agonists (GnRH agonists) are agents which increase the production of gonadotropins (FSH & LH). This inhibits production of estrogen, creating a state of pseudomenopause. The fibroids shrink while on treatment and come back to the original size once the administration is stopped. The analogues can thus temporarily reduce the size of the fibroids.

Daily subcutaneous (SC) injections of GnRH-a have been found to decrease uterine size from 13.8 weeks to 9.5 weeks after 8 weeks of treatment. Monthly GnRH-a, given for 6 months, reduces myoma volume by 30%, non-myoma volume by 43%, and total uterine volume by 35% (15). Reduction in uterine size occurs mostly within the first 3 months of treatment. Menorrhagia responds well to GnRH-a. After discontinuation of GnRH-a, menses return in 4–8 weeks, and uterine size returns to pretreatment levels within 4–6 months. However, 64% of women in one study remained asymptomatic 8–12 months after treatment.

Dose: Inj Goserline acetate 3.5mg subcut. Every month. After 3 months the size of the fibroid will reduce by 40-50%. Inj. triptorelin 3.73mg every 4 weeks.

Indication: To buy time till the actual surgery is undertaken, meanwhile treating anaemia, or some medical condition. It can also be used to reduce the size of the fibroids so that an abdominal surgery could be converted to a vaginal, laparoscopic or hysteroscopic procedure (19).

The size and symptoms recur on stopping treatment. Thus treatment with this group of drugs is reserved for reducing the size of the tumour to facilitate surgery, or to temporarily prolong the date of surgery while keeping the patient symptom free from fibroids.

The drug Mifepristone or RU486, initially developed for Medical termination of pregnancy has also shown to shrink fibroids. However, Because of the P-blocking action of RU-486, endometrial hyperplasia may result from unopposed exposure of the endometrium to estrogen. There are no large studies on the use of the drug in fibroids and it is not known how long it will be before the fibroids recur. Symptoms of fibroid, viz: Menorrhagia can be controlled with progesterone containing intrauterine devices. Other haemostatic drugs can be used to control menorrhagia, but the size of the fibroids will remain same.

Medical therapy in a perimenopausal woman may be instituted, in the hope that the woman may attain menopause soon and that the disease can be kept quiet till then. However, the age of onset of menopause being uncertain, this indefinite period of medical treatment may be bothersome to some patients.

Can a woman with a fibroid take oral contraceptive pills?

Studies have found no evidence that low-dose contraceptives cause the growth of uterine fibroid

tumors; thus, these tumors are not a contraindication to the use of these contraceptives(2)

Can a woman with asymptomatic fibroids take hormone replacement therapy if she is bothered too much by hot flashes?

Fibroids regress after menopause and should be left alone if asymptomatic. Hormone replacement therapy with estrogen can be given in indicated cases even if fibroids are present as the estrogen content in hormone replacement therapy is too small to cause any change in the size of fibroids(4). However, as discussed earlier, the incidence of abnormal uterine bleeding is higher in these women and other options like Alendronate phytoestrogens, etc which could also be considered in place of estrogen in menopausal women requiring estrogen replacement therapy.

What is the role of progesterone releasing IUD's in the treatment of fibroids?

Levonorgestrel-releasing intrauterine system (LNG IUS) are popularly used in women with menorrhagia needing contraception, as they locally release the progestogen Levonorgestrel, reducing menorrhagia, without the systemic side effects of progesterone therapy. Patients with LNG IUS must expect occasional irregular spotting in the first 6 months of insertion and learn not to bother about it.

In a study, women with uterine size <12 weeks size were treated with LNG IUS. They found that the LNG IUS diminishes menstrual blood loss, improves iron deficiency anemia, and reduces uterine and leiomyoma size during the first year of use.(5). A profound decrease in blood loss was seen to occur in the first 3 months of use. Women with distortion of the uterine cavity are not good candidates for this treatment. The mechanism of shrinkage of a uterus, enlarged by either adenomyosis or leiomyoma treated with intrauterine levonorgestrel, is unknown. It could be due to increased impedance in uterine arteries caused by progesterone, or by inhibition of IGF-I by IGF-binding protein-1 following long term exposure to Levonorgestrel. Insulin-like endometrial growth factor-I (IGF-I) is believed to act as a mediator of E₂ action in the growth of uterine myoma and therefore, inhibiting it reduces E₂ action.

What are the non medical options available for treatment of fibroids?

Surgical removal of the fibroids, either by myomectomy, or hysterectomy is one option. Other options are uterine artery embolisation, and magnetic-resonance-guided focused ultrasound surgery (MRgFUS) of fibroid.

What is uterine artery embolisation?

Uterine artery embolisation is a nonsurgical treatment for the treatment of fibroids. It can be done only in centres with facilities for angiographic studies. The uterine artery is cannulated via the right femoral artery under fluoroscopic control and obstructive particles, usually polyvinyl alcohol are injected into the uterine artery. Then the cannula is steered into the aorta and from there into the left uterine artery which is also cannulated and obstructive particles injected. The blood supply to the fibroids is thus curtailed. They undergo degeneration. The advantage is that all the fibroids can be treated simultaneously and the procedure can be completed under sedation.

Postprocedural pain, the result of hypoxia, anaerobic metabolism, and formation of lactic acid, usually requires 1 night of pain management in the hospital. Most women are discharged the next day and may need to take nonsteroidal anti-inflammatory medications for 1–2 weeks. Many women can return to normal activity within 1–3 weeks, although about 5%–10% of women have pain for >2 weeks. About 10% of women will require readmission to the hospital for postembolization syndrome, which may be characterized by diffuse abdominal pain, nausea, vomiting, low-grade fever, malaise, anorexia, and leucocytosis and pelvic sepsis have been reported in some cases after this procedure. Tropeano et al found no evidence for fibroid embolization advancing the timing of menopause in women before the age of 45 years. Premature ovarian failure and vaginal discharge are also known after effects in some patients.

Contraindications to treatment of myomas with UAE include active genitourinary infection, genital tract malignancy, reduced immune status, severe vascular disease limiting access to the uterine arteries, contrast allergy, or impaired renal function. Relative contraindications include submucous myomas, pedunculated myomas, recent GnRH-a treatment or previous iliac or uterine artery occlusion, or postmenopausal status. Women with very large multiple fibroids are not good candidates for this modality of treatment. Although very rare, complications of UAE may necessitate life-saving

hysterectomy. Therefore, women who would not accept hysterectomy under any circumstance should not undergo UAE.

What is MRI guided ultrasound treatment of fibroids?

MRI-guided focused ultrasound (MRgFUS) is a noninvasive method of thermal ablation, which, through MRI guidance, allows for 3D treatment planning and feedback of temperature deposition in the area to be treated. This is a non-invasive treatment option for patients suffering from symptomatic fibroids. It does not require anaesthesia and Women undergoing this treatment do not require a hospital stay, and can usually return to work and full resumption of normal activities within a day or two of the procedure. Fibroid shrinkage can be seen by 6 months. Most patients benefit from it and symptomatic relief is sustained for two plus years. Up to 16-20% of patient will require an additional treatment.

What are the surgical options available for fibroids?

Surgical treatment options currently include abdominal myomectomy; laparoscopic myomectomy; hysteroscopic myomectomy; endometrial ablation; and abdominal, vaginal, and laparoscopic hysterectomy.

Serious medical conditions, such as severe anemia or ureteral obstruction, often need to be addressed surgically. Surgical intervention may also be indicated in women who have myomas that are associated with menorrhagia, pelvic pain or pressure, or urinary frequency or incontinence that compromises quality of life. Women with large symptomatic myomas who have completed childbearing are most often recommended to have a hysterectomy.

When is myomectomy offered to a perimenopausal woman with fibroids? What are the ways in which it can be done?

In a woman with fibroids, who wants to preserve her uterus, myomectomy is the only option.. Case-controlled studies suggest that there may be less risk of intraoperative injury with myomectomy when compared with hysterectomy. Myomectomy through a laparotomy incision is the preferred route for the ordinary surgeon. However, a large scar on the abdomen may necessitate long periods of absence from work, as the woman cannot lift heavy objects, due to fear of developing a hernia.

Laparoscopic Myomectomy with endosuturing is safe in the hands of an experienced endoscopic surgeons. When the number of fibroids are many, laparoscopic route of tackling them, may lead to missing deep seated fibroids, since the tactile sensation is not permissible in the laparoscopic route.

Otherwise, laparoscopic myomectomy may be the preferred route if the surgeon is experienced.

Single small submucous fibroids could be handled by hysteroscopic myomectomy.

Hysteroscopic myomectomy is generally selected for fibroids less than 3 cm in size. In larger fibroids, hysteroscopic resection may remain incomplete.

What is the role of hysterectomy in fibroids?

Women who have completed their families, with intractable symptoms that affect their lives and who have not been helped by other therapies may benefit from hysterectomy. Laparoscopic assisted vaginal hysterectomy or vaginal hysterectomy offer less morbidity for the patient post-operatively.

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