Quick Review: Uterine Fibroids

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Abstract

Uterine
Leiomyoma (fibroids, myomas) are benign tumors of localized, proliferative smooth muscle cells. They are commonly found with an incidence of approximately 30 % among American women. The majority of these are clinically "silent" and asymptomatic; but when they do become symptomatic, they most commonly present with: Pain (including secondary dysmenorrhea); Bleeding (menorrhagia with an increased amount and duration of flow); and Pressure (related to size and number of tumors). Since fibroids can present as "Pelvic Masses", they should be investigated to rule-out the possibility of cancer.

Uterine Leiomyoma (fibroids, myomas) are benign tumors of localized, proliferative smooth muscle cells. They are commonly found with an incidence of approximately 30 % among American women. The majority of these are clinically “silent” and asymptomatic; but when they do become symptomatic, they most commonly present with: Pain (including secondary dysmenorrhea); Bleeding (menorrhagia with an increased amount and duration of flow); and Pressure (related to size and number of tumors). Since fibroids can present as “Pelvic Masses”, they should be investigated to rule-out the possibility of cancer.

Leiomyomas are hormone-responsive, in that Growth is directly related to the Estrogen-environment: (increased estrogen = increased growth and number of tumors). With menopause (or situations where estrogen is decreased, e.g. progestin supplementation), and the relative lack of estrogenic stimulation, these tumors usually undergo atrophy and become clinically 'nonexistent'. In less than 1% of cases, malignancy can arise - usually forming leiomyosarcomas (though there can be several histologic variants). The turn to malignancy is more commonly seen in older patients (post menopausal) who present with rapidly growing tumors, post menopausal bleeding, and a moderate degree of pelvic pain/discomfort. In this population, an enlarging pelvic mass must not be assumed to be fibroid (as it might be in a younger pt); cancer must first be considered a likely etiology.

In general, bleeding is the most common presentation of uterine fibroids. 3 mechanisms have generally been accepted for the increased bleeding:

1. Alteration of normal myometrial contractility within the Small Artery and Arterioles supplying the endometrium.
2. Inability of the overlying endometrium to respond to the normal menstrual phases (estrogen/progesterone) which induces efficient sloughing of the endometrium.
3. Pressure Necrosis of the overlying endometrial bed - exposing vascular surfaces and leading to excessive bleeding.

The best example of a fibroid which presents as uncontrolled bleeding is the Submucousal Leiomyomata. In this form, the majority of distortion created by the smooth muscle tumor projects inward towards the uterine cavity thus disrupting the endometrial layer (and leading to “repeated menses”). Blood loss from this type of continuous menstruation can, occasionally, be heavy enough to contribute to chronic iron-deficiency anemia or, rarely, to severe acute blood loss - possibly shock.

Diagnosis of fibroids is usually made on clinical grounds with a supporting history; clinical examination (abdominal and bimanual examination) may reveal characteristic qualities of a myoma: large, midline, mobile pelvic mass

with an irregular contour and a “hard” or “solid” feel. These tumors can usually be differentiated from adnexal disease - though a subserosal tumor which becomes pedunculated may present as an adnexal mass. Further studies can include ultrasound, CT, MRI - but cost must be weighed against benefit, endometrial sampling or D & C (especially when dealing with an older pt to exclude possibility of cancerous growth), and hysteroscopy (allows direct visualization of the fibroid - especially submucus type).

Complications of leiomyomata are few: Degeneration (with possible hemorrhage or infection), Sarcomatous Change (mentioned earlier), and the worsening of symptomatology (with associated quality of life issues). Depending on the severity of symptoms, most uterine fibroids will not require surgical treatment.

In treating these tumors, reassurance and observation (once cancer has been ruled out) may be all that are required - especially if pt is close to the natural menopause. Medical treatments are based on the notion that these tumors are 'estrogen-dependent' and involve:

1. The use of Progestin Supplementation (to decrease the high-estrogen environment). This may minimize the amount of uterine bleeding; however if there is a significant amount of cavitary distortion caused by a large intramural or submucus fibroid (as in this case), progesterone will be of minimal benefit since the excessive bleeding is due to the severe anatomic and vascular abnormalities.
2. GnRH Agonists (Lupron) which inhibit the release of the gonadotropins (LH and FSH) by interrupting the pulsatile release of physiologically produced GnRH (stimulation is now continuous). This treatment is usually temporary - with a 3 - 6 month course given pre-operatively in preparation for hysterectomy or to postpone symptoms until the natural menopause.
3. Danazol has also been used to reduce the amount of ovarian-produced estrogen but has not been very successful in treating symptoms.

Surgical treatment via Myometomy is occasionally used - especially in younger patients with infertility problems secondary to the fibroid (uterine distortion or implantation). The definitive surgical treatment for myomas is hysterectomy. However, indications for the proper use of this surgery include: excessive bleeding, intractable pain, rapidly-enlarging size, post menopausal enlargement, pelvic pressure symptoms, and impingement of the ureters (leading to hydronephrosis). The decision to use this approach must include an assessment of the pt's future reproductive plans, the associated disability caused by the fibroid, and the clinical signs of worsening condition (e.g. anemia). However, the presence of uterine myomas alone does not necessarily warrant this operation.

References

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