Myoma
(Diagnosis, classification)

Dr. S Hosseini
Assistant professor
SBMU
2021
introduction

• Uterine leiomyomas are the most common pelvic tumor in women

• The prevalence of leiomyomas increases with age during the reproductive years

• Incidence?
• 59 percent of Black women and 43 percent of White women
• Myomas are monoclonal, and about 40% are chromosomally abnormal; the remaining 60% may have undetected mutations.

• Genetic differences between myomas and leiomyosarcomas indicate that they most likely have distinct origins and that leiomyosarcomas do not result from malignant degeneration of myomas.
Risk factor

• Race: two- to threefold greater in Black women than in White women

• Reproductive and endocrine factors: growth of fibroids is responsive to gonadal steroids, these hormones are not necessarily responsible for the genesis of the tumors

• Parity: Parity (having one or more pregnancies extending beyond 20 weeks of gestation) decreases the chance of fibroid formation
- **Early menarche**
  Early menarche (<10 years old) is associated with an increased risk of developing fibroids.

- **Hormonal contraception**
  Use of standard or lower dose oral contraceptives (OCs; \( \leq 35 \) mcg ethinyl estradiol/day) does not appear to cause fibroids to grow; therefore, administration of these drugs is not contraindicated in patients with fibroids.
• Obesity
  • relationship is complex and is likely modified by other factors, such as parity

• Diet, alcohol, and smoking
  • Significant consumption of beef and other reds meats
  • Increases in dietary glycemic index or load
  • vitamin D deficiency or insufficiency
  • Caffeine weak associations in patients under age 35 with high consumption of coffee or caffeine intake
  • Consumption of alcohol,

• Genetics
CLINICAL FEATURES

- Heavy or prolonged menstrual bleeding
- Bulk-related symptoms, such as pelvic pressure and pain
- Reproductive dysfunction (i.e., infertility or obstetric complications)
• Heavy and/or prolonged menses is the typical bleeding pattern with leiomyomas and the most common fibroid symptom.

• Intermenstrual bleeding and postmenopausal bleeding should prompt investigation to exclude endometrial pathology.

• Patient may have fibroids and may also have endometrial neoplasia.
• pelvic discomfort is common but less common than AUB. 
  **chronic, intermittent, dull pressure or pain.**

• frequency, difficulty emptying the bladder, or, rarely, complete urinary obstruction may all occur in up to 60 percent of patients with fibroids

• constipation.

• Venous compression — Very large uteri may compress the vena cava and lead to an increase in thromboembolic risk (4 %)
• Painful menses: heavy menstrual flow and/or passage of clots.

• Painful intercourse: controversial
  anterior or fundal fibroids are the most likely to be associated with deep pain with intercourse

Fibroid degeneration or torsion:
  pelvic pain, low-grade fever, uterine tenderness on palpation, elevated white blood cell count, or peritoneal signs.
• Infertility or obstetric complications:
  Leiomyomas that distort the uterine cavity

• Leiomyomas have been associated with adverse pregnancy outcomes (eg, placental abruption, fetal growth restriction, malpresentation, and preterm labor and birth)
MYOMAS AND PREGNANCY

• During pregnancy, the incidence of sonographically detected myomas is low.

• Pregnancy has a variable and unpredictable effect on myoma growth, likely dependent on individual differences in genetics, circulating growth factors, and myoma-localized receptors.
• the greatest increase occurred before the 10th week of gestation

• There was no relationship between initial myoma volume and myoma growth during gestational periods.

• A reduction in myoma size was observed 4 weeks after delivery
DIAGNOSTIC EVALUATION

• History
• Physical exam
• Pelvic sono
• Saline infusion sonography
• Hysteroscopy
• MRI
FIGO leiomyoma subclassification system

<table>
<thead>
<tr>
<th>SM - submucous</th>
<th>0</th>
<th>Pedunculated intracavitary</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>&lt;50% intramural</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>≥50% intramural</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Contacts endometrium; 100% intramural</td>
</tr>
<tr>
<td>O - Other</td>
<td>4</td>
<td>Intramural</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Subserous ≥50% intramural</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Subserous &lt;50% intramural</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Subserous pedunculated</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Other (specify eg, cervical, parasitic)</td>
</tr>
</tbody>
</table>

Hybrid (contact both the endometrium and the serosal layer)

Two numbers are listed separated by a hyphen. By convention, the first refers to the relationship with the endometrium while the second refers to the relationship to the serosa. One example is below.

| 2-5 | Submucous and subserous, each with less than half the diameter in the endometrial and peritoneal cavities, respectively. |
• in premenopausal women, “rapid uterine growth” almost never indicates the presence of uterine sarcoma.

• The preoperative diagnosis of leiomyosarcoma in premenopausal and postmenopausal women may be possible using total serum (LDH), LDH isoenzyme 3, and gadolinium-enhanced dynamic MRI (Gd-DTPA)