Obstetrics and Gynecology
Benign disease of the myometrium

University Of Fallujah
College Of Medicine

Lecture : 5

Stage : 5th Year

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Learning objectives

1. Review the clinical presentation, diagnosis ad main modalities in the treatments of uterine fibroid.

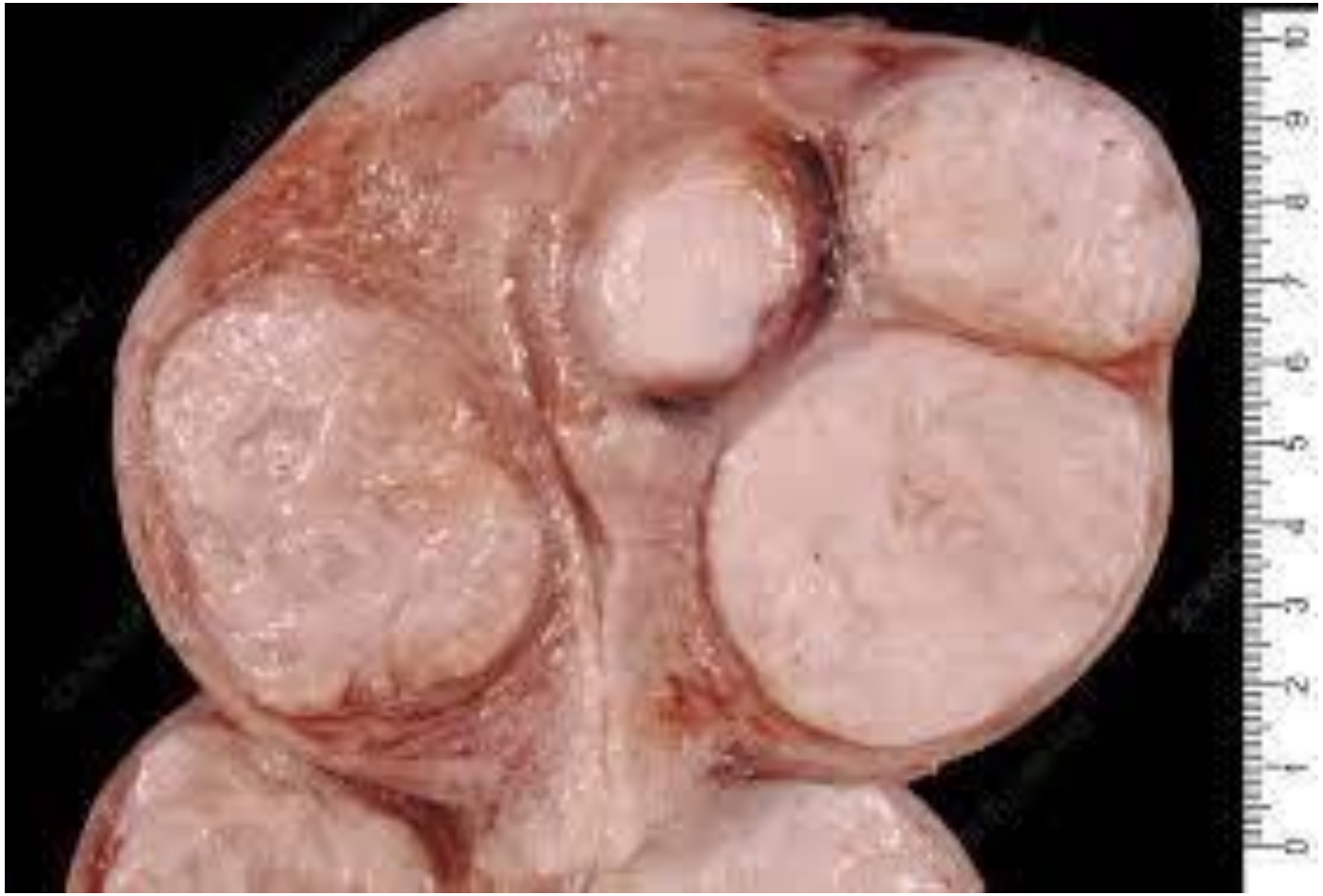
2. know the natural history of Adenomyosis and clinical presentation.

3. the indications of surgical treatment in fibroid and Adenomyosis.

Benign lesions of myometrium

Fibroid

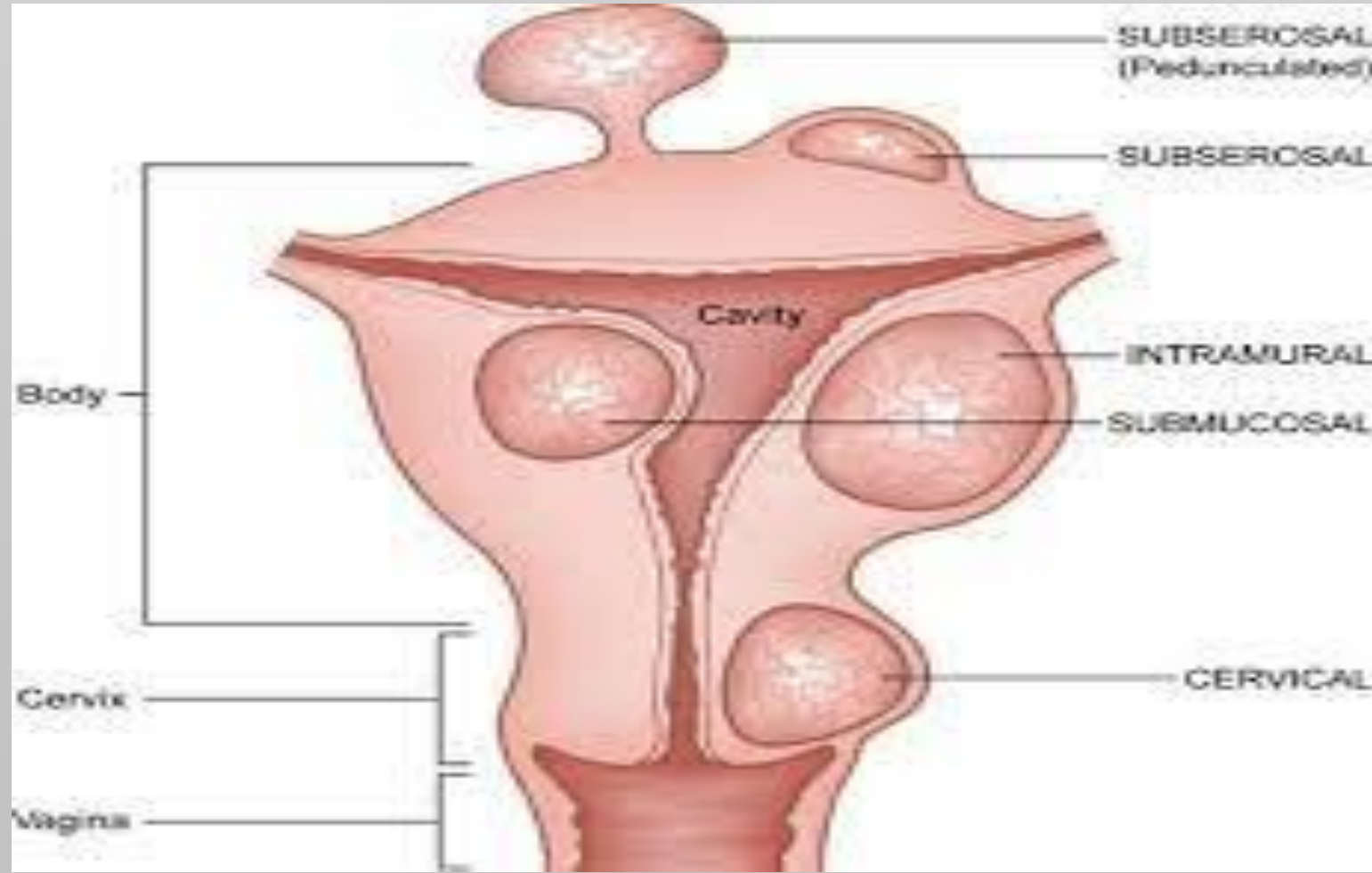
- A fibroid is a benign tumour of uterine smooth muscle termed a ‘leiomyoma’.
- The gross appearance is of a well-demarcated, firm, whorled tumour.
- It found in approximately 40% of women and are more common in nulliparous and obese women and in those with a family history or of African descent.
- They are usually multiple and can substantially increase the size of the uterus.



Classification of fibroid

Fibroids classified according to their location in relation to the uterine wall:

- Submucous.
- Intramural.
- Subserosal.
- Cervical.
- Uncommonly, fibroids can arise separately from the uterus, especially in the adjacent broad ligament, presumably from embryonal remnants.


SUBSEROSAL
(Pedunculated)
SUBSEROSAL
Cavity
INTRAMURAL
SUBMUCOSAL
Body
CERVICAL
Cervix
Vagina

Clinical features of fibroids:

- Most fibroids are small and asymptomatic.
- Abnormal uterine bleeding.
- Subfertility.
- Recurrent pregnancy loss.
- Pressure and pain.
- Bladder and bowel dysfunction.
- Abdominal distension.
- Pain is unusual, except in the special circumstance of acute red degeneration or torsion of a pedunculated fibroid.
- Fibroids located in the cervix or lower uterine segment may cause an abnormal lie. After delivery, postpartum haemorrhage may occur due to inefficient uterine contraction.
- General examination: signs of anaemia. Abdominal examination might indicate the presence of a firm mass arising from the pelvis.

Natural history

Fibroids are benign, oestrogen-dependent tumours that can enlarge during pregnancy in response to the high estrogen, become common with advancing reproductive age and shrink after the menopause when ovarian oestrogen production ceases.

They can undergo degenerative change usually in response to outgrowing their blood supply.

Three forms of degeneration are recognized:

- Red degeneration: haemorrhage and necrosis occurs within the fibroid typically presenting in the second trimester pregnancy with acute pain.
- Hyaline degeneration: asymptomatic softening and liquefaction of the fibroid.
- Cystic degeneration: asymptomatic central necrosis leaving cystic spaces at the centre. Degenerative changes can initiate calcium deposition leading to calcification.
- Rarely, malignant or sarcomatous degeneration can occur but the incidence of this is 1:350 cases or less. The suspicion is greatest in the postmenopausal period when there is a rapidly increasing size of the fibroid.

Diagnosis

- History and examination alone will be sufficient to establish the diagnosis.
- A full blood count should be taken in women with HMB; severe anaemia associated with HMB indicates the presence of significant fibroids.
- Abdominopelvic ultrasound is the mainstay of diagnosis and helps distinguishing between a uterine fibroid and an ovarian tumour, and locating the position and size of fibroids. Ultrasonography is also helpful to exclude hydronephrosis from pressure on the ureters.
- MRI used to demarcate the morphology, size and location of uterine fibroids prior to radiological or surgical intervention.
- Hysteroscopy: good for detecting submucosal fibroids and endometrial polyps.

Treatment of fibroids

Conservative management is appropriate where asymptomatic fibroids are detected incidentally.

Medical treatment

The main types of medical treatment aim to control heavy menstrual bleeding:

- Mefenamic acid.
- Tranexamic acid.
- Combined oral contraceptive pill (COCP): but tend to be ineffective in the presence of a submucous fibroid or an enlarged uterus that is palpable abdominally (>12 weeks size).
- The levonorgestrel intrauterine system (Marina).

- The only effective medical treatment is to use injectable gonadotrophin-releasing hormone (GnRH) agonists, which induce a menopausal state by shutting down ovarian estradiol production.

Hysterectomy and myomectomy may be facilitated by GnRH agonist pretreatment over a 3-month period to reduce the bulk and vascularity of the fibroids.

- The selective progesterone receptor modulator (SPRM) ulipristal acetate has been shown to be as effective as GnRH agonists in reducing fibroid volume and alleviating HMB symptoms.
- However, neither GnRH nor SPRM represent a viable long-term treatment option. Moreover, when ovarian function returns, the fibroids regrow to their previous dimensions.

Surgical treatment

- Minimally invasive hysteroscopic surgery can be used to cut away a submucous fibroid or fibroid polyp.
- Myomectomy or hysterectomy: are option when bulky fibroid uterus causes pressure symptoms or where HMB is refractory to medical interventions. Myomectomy will be the preferred option where preservation of fertility is required, and this procedure can be performed as laparotomy or laparoscopy.

Radiological Uterine artery embolization (UAE):

A small incision is made in the groin under local anaesthesia and a cannula placed into the femoral artery and guided into the uterine arteries. Embolization particles are then injected, reducing the blood supply to the uterus, which induces infarction and degeneration of fibroids such that the overall reduction in fibroid volume is around 50%.

Complications include:

- Fever
- Infection
- Fibroid expulsion
- Potential ovarian failure. Women wishing to retain their fertility should be counselled carefully before undergoing UAE.
- Abnormal placentation.

Adenomyosis

- Adenomyosis is a disorder in which endometrial glands and stroma found deep within the myometrium.
- This ectopic endometrium is responsive to cyclical hormonal changes that result in bleeding within the myometrium, leading to increasingly severe secondary dysmenorrhea, uterine enlargement and HMB.
- Women with adenomyosis are usually multiparous and diagnosed in their late 30s or early 40s.

Diagnosis

- Examination may reveal a bulky and sometimes tender ‘boggy’ uterus, particularly if examined perimenstrually.
- Ultrasound examination of the uterus may be helpful for diagnosis when adenomyosis particularly localized, showing haemorrhage-filled, distended endometrial glands.
- MRI is the investigation of choice although expensive, as it provides excellent images of the myometrium, endometrium and areas of adenomyosis.
- Adenomyosis can only be definitively diagnosed following histopathological examination of a hysterectomy specimen.

Treatments

- Treatment that induces amenorrhea will be helpful, as it will render the ectopic endometrium quiescent, relieving pain and excessive bleeding.
- the use of the progestin-containing long-acting reversible contraceptives such as the LNG-IUS and depot Provera and short-term GnRH agonists considered.
- On ceasing treatment, however, the symptoms rapidly return in the majority of patients, and hysterectomy remains the only definitive treatment.

Thank you