



**Obstetrics and Gynecology
Heavy menstrual bleeding**

**University Of Fallujah
College Of Medicine**



Lecture : 6

Stage : 5th Year

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Department: Obstetrics and Gynecology

Date: 17|11|2025

Learning objectives

1. Know the normal parameters of menstrual cycle.
2. Identify the pathophysiological causes behind heavy menstrual bleeding.
3. Explain the main modalities of treatment of heavy menstrual bleeding.

Disorders of the menstrual cycle

Parameters of normal menstrual cycle

- Duration of the cycle 5-7 days.
- Interval between cycles 21-35 days (calculated from first day of the cycle to the first day of subsequent cycle.)
- Blood loss < 80 cc.

Traditional terminology for abnormal uterine bleeding

- **Heavy menstrual bleeding HMB** (the older term **menorrhagia**): excessive and/or prolonged menses (>80 mL and >7 days) occurring at normal intervals
- **Metrorrhagia**: irregular episodes of uterine bleeding
- **Menometrorrhagia**: heavy and irregular uterine bleeding
- **Oligomenorrhea**: cycles with intervals longer than 35 days
- **Polymenorrhea**: abnormally frequent menses at intervals of less than 21 days
- **intermenstrual bleeding**: which refers to bleeding between normally spaced menses

Heavy menstrual bleeding (HMB) or menorrhagia

is defined as a blood loss of greater than 80 mL per period. Heavy menstrual bleeding occurs in 9-14% of healthy women of reproductive age and is the reason for up to 20% of outpatient clinic visits by women.

Heavy menstrual bleeding can cause severe anemia, and diminish a woman's quality of life.

methods to quantify menstrual blood loss include:

- Hemoglobin evaluation.
- Estimating of the number of sanitary pads used by a woman during menses.
- Passing clots more than 1.1 inches in diameter.
- Pictorial blood assessment chart

but all these methods are inaccurate and impractical and so a clinical diagnosis based on the patient's own perception of blood loss is preferred.

Name: _____




Day start:




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 year month day

Patient No:

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Pads	1	2	3	4	5	6	7	8
								
								
								
Clots/ Flooding								

Tampon	1	2	3	4	5	6	7	8
								
								
								
Clots/ Flooding								

Source: Schorge JO, Schaffer JI, Halvorson LM, Hoffman BL, Bradshaw KD, Cunningham FG: *Williams Gynecology*: <http://www.accessmedicine.com>

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Aetiology of HMB

Despite appropriate investigations, often no organic pathology can be identified. Bleeding of endometrial origin (BEO) is the diagnosis of exclusion. This replaces the older 'dysfunctional uterine bleeding' (DUB).

Disordered endometrial prostaglandin production has been implicated in the aetiology of BEO.

Pathology that should be excluded are:

- Fibroids
- Endometrial or cervical polyps
- Coagulation disorders, e.g. von Willebrand's disease
- Pelvic inflammatory disease (PID)
- Thyroid disease
- Drug therapy (e.g. warfarin)
- Intrauterine contraceptive devices (IUCDs)
- Endometrial/cervical carcinoma.

History and examination

- Assessment of the severity of the bleeding by the presence of clots and number of pads, ask if the bleeding flooding over patient clothes or bedding.
- examining the patient for signs of anaemia.
- it is important to perform an abdominal and pelvic examination in all women complaining of HMB. This enables any pelvic masses to be palpated, the cervix to be visualized for polyps/carcinoma, swabs to be taken if pelvic infection is suspected or a cervical smear to be taken if needed.

Investigations

- 1. Full blood count:** to ascertain the need for iron therapy or blood transfusion.
- 2. Coagulation screen**
- 3. Thyroid function tests:** should only be carried out when the history is suggestive of a thyroid disorder.

4. Pelvic ultrasound scan: a pelvic ultrasound scan (USS) should be performed if:

- a pelvic mass is palpated on examination suggestive of fibroids
- symptoms suggest an endometrial polyp, e.g. irregular or intermenstrual bleeding;
- drug therapy for HMB is unsuccessful.

5. High vaginal and endocervical swabs: should be taken if:

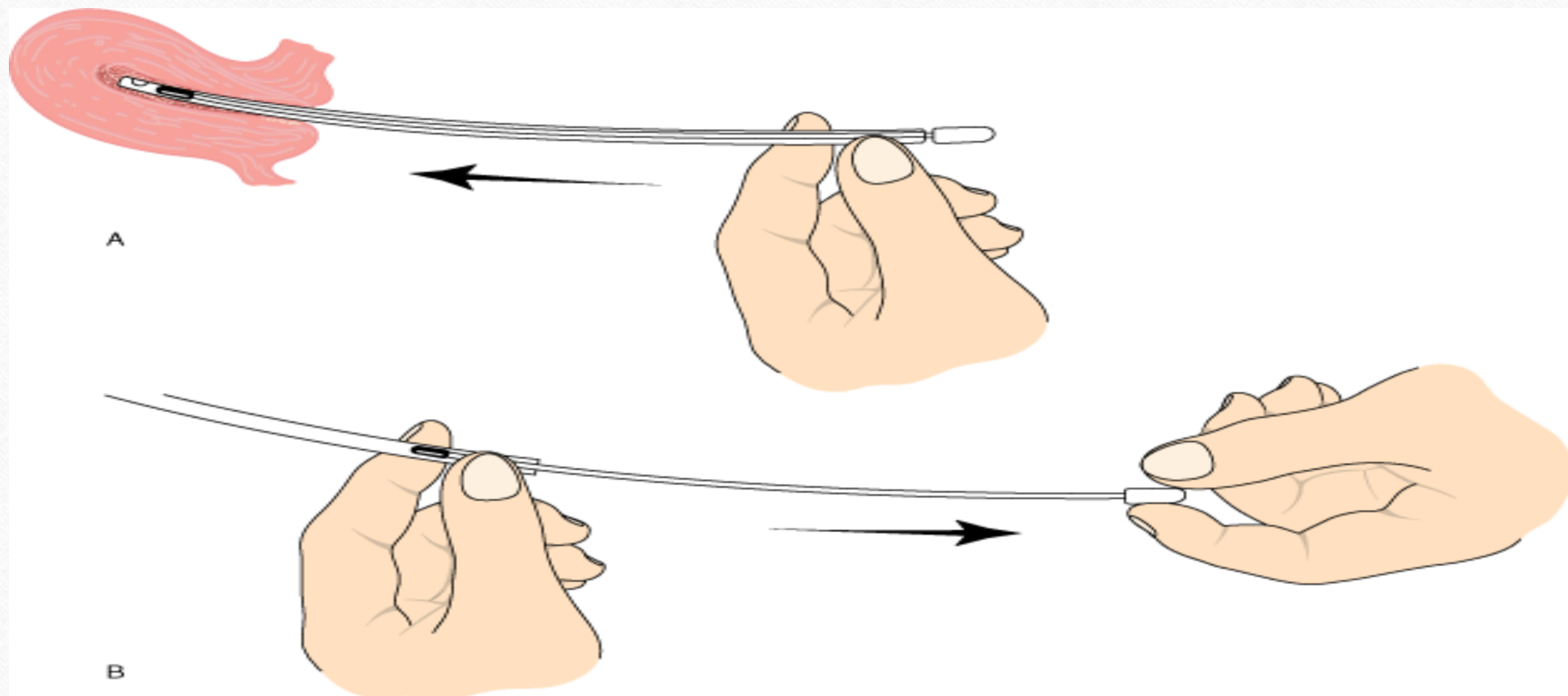
- unusual vaginal discharge is reported or observed on examination
- where there are risk factors for PID.

6. Endometrial biopsy: should be performed:

- in those aged >45 years;
- if irregular or intermenstrual bleeding;
- drug therapy has failed.

method for endometrial biopsy:

1. A Pipelle can be performed in the outpatient setting.
2. An outpatient hysteroscopy with endometrial biopsy may be indicated if Pipelle biopsy attempt fails; or insufficient for histopathology assessment; or US suggested endometrial polyp or submucosal fibroid.
3. hysteroscopy and endometrial biopsy under general anaesthetic may be required if the patient fails to tolerate an outpatient procedure or the cervix needs to be dilated to enter the cavity



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Figure 5.4 Hysteroscopes

Management

Medical treatments

1. Mefenamic acid and other non-steroidal anti-inflammatory drugs:

These drugs are associated with a reduction in mean menstrual blood loss of 20–25 per cent. This may be sufficient in some women to restore menstrual blood loss and also give an effective analgesia in cases of dysmenorrhea.

Recommended dose: 500 mg p.o. tds to be taken only during menstruation especially if it's heavy or painful.

2. Tranexamic acid

This is associated with a mean reduction in menstrual blood loss (MBL) of about 50 per cent. Recommended dose: 1 g p.o. qds to be taken during heavy menstruation only.

Tranexamic acid may be associated with theoretical increased risk of venous Thrombosis.

3. Combined oral contraceptive pill (COC)

Evidence suggests that these hormonal contraceptives are effective in the treatment of HMB, and when used long term, reduce flow by 40 to 70 percent.

Advantages to COC use include the additional benefits of reducing dysmenorrhea and providing contraception.

4. Norethisterone

This progestogen is effective when taken in a cyclical pattern from day 6 to day 26 of the menstrual cycle. It is a safe and effective oral preparation, which can regulate bleeding pattern, But It is not a contraceptive.

Recommended dose: 5–10 mg tds on days 6–26 of the menstrual cycle.

5. Levonogestrel intrauterine system

The levonogestrel intrauterine system (LNG-IUS, Mirena) provides local progesterone which is highly effective alternative to surgical treatment, with few side effects.

Mean reductions in MBL of around 95 per cent by one year after insertion

It also provides contraceptive.



Figure 5.5 The levonorgestrel intrauterine system (LNG-IUS, Mirena).

6. GnRH agonists

These drugs when use continuously act on the pituitary to stop the production of oestrogen which results in amenorrhoea. These are only used in the short term (six months) due to the resulting hypooestrogenic state which predisposes to osteoporosis unless combined with addback hormone replacement therapy (HRT). They can be associated with flushing and sweating.

Dose: Goserelin (Zoladex) 3.6 mg monthly subcutaneous implant, Buserelin (Suprecur) 300 mg nasal spray tds.

7. Danazol and Gestrinone

Danazol is a synthetic steroid 17 α ethinyl testosterone, it creates a hypoestrogenic and hyperandrogenic environment, which induces endometrial atrophy. As a result, menstrual loss is reduced by approximately half, and it may even induce amenorrhea in some women. For heavy menstrual bleeding, suggested dosing is 100 to 200 mg taken orally every day. This agent has significant androgenic side effects that include weight gain, oily skin, and acne. It is thus usually reserved as a second-line drug for short-term use prior to surgery.

Gestrinone is derived synthetically from a 19-nortestosterone steroid nucleus. Its mechanism of action, side effects, and indications for the treatment of menorrhagia are similar to danazol. The recommended dose for the treatment of menorrhagia is 2.5 mg daily every 3 to 4 days.

Surgical treatments

Surgical treatment is normally restricted to women for whom medical treatments have failed. Women contemplating surgical treatment for HMB must be certain that their family is complete. surgical treatment includes:

1. Endometrial ablation

ablation of the endometrial lining of the uterus to sufficient depth prevents regeneration of the endometrium. The mean reduction in blood loss associated with this procedure is estimated at around 90 per cent.

The first-generation techniques, including transcervical resection of the endometrium with electrical diathermy loop, have largely been replaced by newer second-generation techniques. These include:

- Impedence controlled endometrial ablation
- Thermal uterine balloon therapy
- Microwave ablation



Figure 5.6 Microwave endometrial ablation probe (Microsulis).

This takes place as an outpatient or day-case procedure either performed with local anaesthetic in the outpatient setting or under general anaesthetic in theatre.

It is performed through the cervix.

endometrial ablation is so successful that all women with HMB should be encouraged to consider it before opting for hysterectomy.

risks of the procedure include uterine perforation and haemorrhage.

The risks of a pregnancy after an ablation procedure theoretically include prematurity and morbidly adherent placenta, so, the patient should counsel regarding contraception after the procedure.

2. Hysterectomy

A hysterectomy is the removal of the uterus. It is an extremely common procedure

Subtotal hysterectomy is removal of the uterus while the cervix remains.

A bilateral salpingo-oophorectomy is where both ovaries and Fallopian tubes are removed.

Removal of the ovaries will result in an immediate post-menopausal state with varying degrees of systemic oestrogen withdrawal symptoms, including flushing, sweating and mood changes, in addition to an increased risk of osteoporosis. Hormone replacement therapy may need to be considered.

Where the ovaries remain in situ, there is always a risk of future disease, including ovarian cysts or ovarian carcinoma. Therefore, a thorough personal and family history (ovarian and breast cancer) is essential.

Procedure

It's important to take informed consent for each part of the procedure before hysterectomy.

A hysterectomy may be achieved using three approaches:

- Abdominal: this involves an incision which is usually transverse, on the lower abdomen. A vertical midline incision is sometimes used if the uterus is markedly enlarged, for example, by fibroids.
- Vaginal: involves removal of the uterus and cervix via the vagina with no abdominal incisions. A subtotal hysterectomy cannot be performed via this route
- Laparoscopic.

Both the laparoscopic and vaginal approaches result in a quicker return to normal activities and a shorter hospital stay.