

Dysfunctional uterine bleeding

Annually, an estimated 5% of women aged between 30 and 49 years consult their general practitioners for excessive menstrual blood loss. Dr TC Pun discusses diagnosis and management.

Dysfunctional uterine bleeding (DUB) is abnormal bleeding from the uterus in the absence of organic disease of the genital tract.

According to Dewhurst's *Textbook of Obstetrics and Gynecology for Postgraduates*: "Primary DUB, including essential menorrhagia, probably results from a number of different factors including disturbances in eicosanoid metabolism and in fibrinolytic and lysosomal enzyme systems of the endometrium. This disturbance may be primarily in the endometrium or secondary to endo-

crine changes originating in the ovary, pituitary and hypothalamus."

To diagnose DUB, physicians must know the normal menstrual bleeding pattern and be satisfied that the patient's bleeding pattern is abnormal. The mean menstrual cycle length is about 30 days with a range of 23 to 40 days. The bleeding lasts from two to seven days with a mean of five days.

Any bleeding pattern outside these limits (see Table 1) should be considered abnormal until proven otherwise. It is, however, difficult to predict the presence or absence of organic disease from the bleeding pattern alone.

Organic diseases in the genital tract commonly found during investigations for DUB include endometrial polyps, uterine fibromyomas, adenomyosis and pregnancy complications.

Less common but important differential diagnoses to keep in mind are carcinoma of the corpus or uterine cervix.

Pelvic endometriosis and pelvic inflammatory disease are frequently listed as other organic causes but they usually cause more specific symptoms.

DUB may also be related to organic diseases outside the genital tract, including thyroid dysfunc-

tion and bleeding dyscrasia. These patients are usually considered to be suffering from DUB unless they have a concomitant lesion in the genital tract.

Organic diseases are more common in older patients.

Diagnosis

History

The amount, duration, and pattern of uterine bleeding should be noted. It is well established that a patient's perception of the amount of menstrual loss may not correlate with the actual blood loss. However, bleeding can be considered excessive if the patient passes large clots, experiences flooding or has anemic symptoms.

The effect of the menstrual problem on the patient's life and activities should also be explored.

The patient's age, reproductive history, contraception use and plans for future pregnancy should be determined. Associated gynecological problems and organic diseases outside the genital tract should be excluded.

Examination

A general examination may reveal signs of anemia or other coexisting organic diseases. Abdominal and pelvic examinations are essential. A cervical smear should be taken unless there is heavy bleeding.

In patients who have never had sexual intercourse, pelvic examination requires skill and sensitivity. It is essential to explain why the examination must be done, and how it will be performed.

Explicit consent must be obtained: if the patient appears hesitant, it may be best to wait.

A small speculum should be used and the patient encouraged to tell the doctor if she finds the procedure painful. Telling the patient to concentrate on her breathing, and to inhale and exhale deeply and slowly can help her relax.

Further tests

Since the diagnosis of DUB rests on the exclusion of organic

diseases, further investigations are required in many patients.

The extent of the testing depends on the expected incidence of organic pathologies.

Younger patients can usually be managed more conservatively, starting with medical treatment. More invasive investigations, such as hysteroscopy, and dilatation and curettage should be performed only if symptoms persist or recur.

However, older patients should have an endometrial biopsy before treatment begins.

Risk factors, previous history, family history and patient anxiety should be taken into account when deciding on what tests to carry out, and a final decision should be made only after thorough discussion with the patient.

A new, simple endometrial biopsy method (described below) means that far less invasive screening can now be carried out.

The patient's hemoglobin level should be determined if there is heavy bleeding. This provides a simple objective confirmation of the severity of blood loss and of the condition.

The local incidence of thalassemia should be kept in mind when the level is interpreted: a lowish hemoglobin level may be caused by thalassemia rather than excessive menstrual loss. Serum ferritin levels will be low if the anemia is due to menorrhagia, but levels will be normal or high if it is due to thalassemia.

Endometrial biopsy: Endometrial biopsy is being increasingly used to screen for endometrial lesions. It is an office procedure and can cut the number of more invasive tests required.

One of the most effective methods is using a Z-sampler. This is a flexible plastic sheath, 26.5 cm in length, with an outside diameter of 3 mm, a rounded tip and a hole at the base of the tip. Within the sheath is a piston which, when pulled back, creates a negative pressure, drawing endometrial tissue into the sheath.

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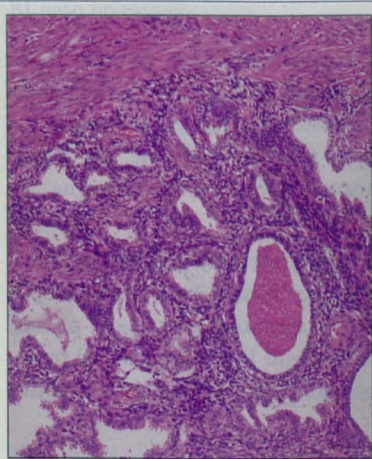
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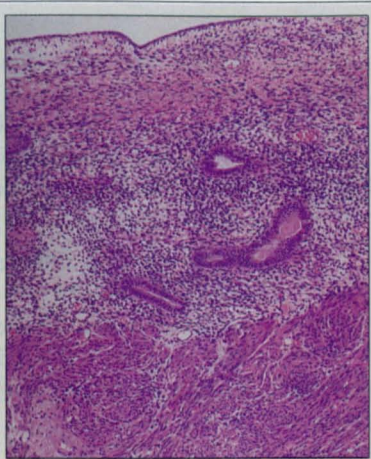
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Table 1. Common abnormal menstrual patterns

Menorrhagia	regular, heavy periods
Polymenorrhoea	frequent periods
Polymenorrhagia	frequent, heavy periods
Oligomenorrhoea	infrequent periods
Oligomenorrhagia	infrequent, heavy periods
Hypomenorrhoea	regular, lighter periods



Healthy endometrium



Atrophic (senile) endometrium

A pelvic examination to note the size and direction of the uterus should be performed. A vaginal speculum is then inserted and the vagina and cervix are prepared using the same sterile techniques used in other intrauterine procedures.

The Z-sampler is inserted into the uterine cavity and endometrial tissue is obtained by combined "pill-rolling" and "in-and-out" movements of the device. Insertion can be eased by vulsellum forceps.

The limitations of the procedure should be remembered, however. It can miss carcinoma of corpus in up to 20% of cases, may not pick up endometrial hyperplasia in 50% of cases, and almost always misses fibroid and endometrial polyps.

If symptoms persist or the patient does not respond to medical treatment, more invasive tests are needed.

Dilatation and curettage: This is a time-honored investigation. But it is only a diagnostic test and has no therapeutic value beyond the current menstrual period. However, uncontrolled heavy menstrual flow can be arrested by curettage. It was considered the gold standard for diagnosis in the past, but submucosal lesions such as endometrial polyps and submucosal fibroids were commonly underdiagnosed.

Hysteroscopy: This investigation is now more common — rapidly replacing dilatation and curettage as the gold-standard diagnostic test for DUB. The endometrial cavity can be systematically inspected so small submucosal lesions can be picked up. The lesion, or if no lesion is detected, the endometrial lining, can be biopsied during the procedure.

The procedure can also be performed in an outpatient setting. However, because of the high cost of the equipment, it is probably not feasible.

Ultrasound: The value of ultrasonography is more controversial. It is probably helpful in picking up adnexal masses and uterine fibroids. However, it is less useful in excluding endometrial diseases other than pregnancy complications. Sonohysterography may be more helpful in detecting submucosal lesions. In this procedure, pelvic ultrasonography is done

using saline injected into the uterine cavity as a contrast medium.

Treatment

If the bleeding pattern is within normal limits, the patient can be reassured. Ask her to keep a menstrual calendar to aid follow up.

For patients diagnosed with DUB, medical treatment should be the first-line approach and surgical treatment should be reserved for older patients with persistent and severe symptoms.

They should also keep a menstrual calendar. Iron supplements should be prescribed if the patient has iron-deficiency anemia. If the dose is high enough (ferrous sulfate 200 mg three times a day), the hemoglobin level should rise by 0.1 g/dL to 0.2 g/dL per day. The rise should begin after one week. Once the hemoglobin level is normal, the treatment should continue for three months to replenish iron stores. Any secondary disease or organic disease, if detected, should be attended to.

There are many drugs for treating DUB. Tranexamic acid, 250 mg orally, four times a day, appears the most effective treatment for menorrhagia. It reduces blood loss by 30% to 60%.

Non-steroidal antiinflammatory drugs (NSAIDs) are also commonly prescribed. Mefenamic acid, 250 mg up to 500 mg three times a day, is effective in reducing blood loss by 20% to 50%.

It is particularly helpful if the patient has concomitant dysmenorrhea. The drug should be taken after food. Antacids can be prescribed if the patient experiences epigastric pain. Other NSAIDs such as naproxen can also be tried if the response to mefenamic acid is not satisfactory.

Oral contraceptive pills are also effective, particularly if the menstrual cycle is irregular. The added advantage is that the patient can be protected against unplanned pregnancy and estrogen deficiency (in chronic anovulation).

Using oral contraceptives in older patients, however, is more controversial. The decision to continue after the age 40 should be made only after excluding risk factors and a thorough discussion with the patient.

Hormonal replacement therapy can also be tried in patients approaching menopause.

Other medical treatments are

either less well established or their applicability is more limited. Norethisterone, sometimes used to improve progesterone levels in patients with anovulation, is probably ineffective — especially at low doses and for a short duration.

Regular progestogen withdrawal may be instituted in a patient with oligomenorrhagia.

Clomiphene citrate, an ovulation agent, can be given if the patient has oligomenorrhea and wants to conceive.

Danazol, gestrinone, gonadotrophin-releasing hormone agonists, and levonorgestrel intrauterine devices have all been tried, but should be considered second-line therapy. Their success rate has been variable.

It bears repeating that dilatation and curettage is only useful for arresting severe hemorrhage in the current period: it has no effect on subsequent cycles.

The aim of surgical management is to remove the source of bleeding — the endometrium. This ranges from the removal of the uterus (hysterectomy) to the removal of the endometrium only.

The former can be performed abdominally, vaginally or laparo-

scopically, depending on the patient's wish, presence of concomitant conditions and the expertise available. Vaginal hysterectomy with or without laparoscopic assistance is preferable because patients recover more quickly and the hospital stay is shorter.

Removing the endometrium artificially induces Asherman's syndrome — where the uterine cavity is obliterated by intrauterine synechiae, resulting in amenorrhea. It is, therefore, only for patients who have completed their families.

By removing the endometrial lining alone, hysterectomy and its related complications can be avoided.

Removal is carried out by electro-surgical ablation, resection, laser vaporization, or other less well-established techniques such as those using thermal balloons or radiofrequency energy systems. However, it is important to note that in up to 30% of patients, further surgery may be required. ■

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Key Points

- Dysfunctional uterine bleeding remains a diagnosis by exclusion.
- It is important to know normal patterns of bleeding.
- After a complete clinical assessment, investigations may be indicated to rule out other causes of abnormal uterine bleeding.
- Endometrial sampling is a simple office procedure which can be performed by family physicians.
- For patients with persistent symptoms, hysteroscopy is indicated and is preferable to the time-honored dilatation and curettage alone.
- Medical treatments should be tried first and only if they fail should surgical treatment be tried.

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