BMJ MASTERCLASS FOR GPs

Dysfunctional uterine bleeding

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Dysfunctional uterine bleeding is defined as abnormal uterine bleeding in the absence of organic disease. It usually presents as menorrhagia without an underlying cause, and it affects women's health both medically and socially. Among women aged 30-49 years, one in 20 consults her general practitioner each year with menorrhagia; making dysfunctional uterine bleeding one of the most often encountered gynaecological problems. About 30% of all women report having had menorrhagia, and it accounts for two thirds of all hysterectomies and most endoscopic endometrial destructive surgery.

Excessive menstrual bleeding has several adverse effects, including anaemia and iron deficiency, reduced quality of life, and increased healthcare costs because it is a major indication for referral to gynaecological outpatient clinics. Each year around £7m (€10m; \$14m) is spent in the United Kingdom on prescriptions in primary care to treat menorrhagia.

Menorrhagia is a disabling problem for many women and a major clinical challenge for gynaecologists. In half of women with menorrhagia there is no organic cause. Dysfunctional uterine bleeding is therefore a diagnosis of exclusion.

What should I know about this condition?

The pathophysiology of dysfunctional uterine bleeding is largely unknown, but it occurs in both ovulatory and anovulatory menstrual cycles. Ovulatory dysfunctional bleeding occurs secondary to defects in local endometrial haemostasis, while anovulatory bleeding is a systemic disorder, occurring secondary to endocrine, neurochemical, or pharmacological mechanisms. Since diagnosis is by exclusion, you must proceed through a logical, stepwise evaluation to rule out all other causes of the abnormal bleeding.

In most patients dysfunctional uterine bleeding is associated with anovulation, and anovulatory bleeding is common in the pubertal and perimenopausal periods. During these transitional states, the abnormal bleeding has a physiological basis and is secondary to an oestrogen withdrawal. Anovulatory bleeding can also be associated with chronic anovulation. The chronic unopposed oestrogen that characterises this disorder causes a continuous proliferation of the endometrium. This can result in abnormal bleeding and increases the risk of developing endometrial cancer. The goals of

PRACTICAL TIPS

- Dysfunctional uterine bleeding is a diagnosis of exclusion: other conditions such as uterine fibroids, endometrial polyps, and systemic diseases must be excluded by appropriate investigations
- Tranexamic acid and mefenamic acid are among the most effective first line drugs for treating menorrhagia
- Women needing contraception have a choice of combined oral contraceptive, levonorgestrel releasing intrauterine system, or long acting progestogens
- Only 2% of endometrial carcinomas occur before age 40. Nulliparity, diabetes, obesity, and polycystic ovary syndrome are risk factors
- Postmenstrual scans are often useful; the endometrium should be at its thinnest then, and polyps and cystic areas are more noticeable

treatment for anovulatory bleeding are to stop the acute bleeding, avert future episodes, and prevent long term complications.

What new guidelines have been produced over the past few years?

National Institute for Health and Clinical Excellence (NICE) guidance on diagnosis and management of heavy menstrual bleeding (due 2007).

This guideline is in progress and was due to have been issued in January 2007.¹ The Department of Health has agreed that the guideline should be extended to cover not only hysterectomy but the pathway for diagnosis and management of heavy menstrual bleeding.

Royal College of Obstetricians and Gynaecologists guidelines on managing menorrhagia

The key points from the guidelines² are

ADDITIONAL EDUCATIONAL RESOURCES

- YRSHR. Menstrual disorders: www.yrshr.org/informationbase_desc.asp?id=34
 - Prodigy guidance. Menorrhagia: www.prodigy.nhs.uk/menorrhagia
 - BMJ Learning: www.bmjlearning.com
- Pelvic inflammatory disease—diagnosis and treatment
Urinary tract infections in women
Dysmenorrhoea—diagnosis and treatment

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Commonly asked questions—answered by our experts

What investigations should I do to rule out a cause for abnormal bleeding?

Women with regular heavy bleeding do not initially need extensive investigation, except for a full blood count. Thyroid function tests are not routinely necessary and should be limited to women with symptoms of hypothyroidism. Investigation of other endocrine disorders is also not usually necessary, but irregular bleeding in a woman with a long history of using the combined oral contraceptive may prompt you to check her serum prolactin levels. Serum follicle stimulating hormone levels may be relevant if the woman is increasingly oligomenorrhoeic, especially in her 40s. You should refer older women for a pelvic ultrasound and for endometrial sampling if the endometrium is thickened.

Which medical treatments for menorrhagia should I use in order of preference?

Medical treatment should be tailored to each patient, taking into account, among other factors, age, fertility, contraceptive needs, and risk factors. Options include combined oral contraceptive, mefenamic acid, tranexamic acid, and the levonorgestrel releasing intrauterine system. For postpubertal women, try mefenamic acid first and, if this does not work, a low dose (20 µg) combined oral contraceptive. Tranexamic acid is the most effective treatment for curtailing menorrhagia while waiting for a hospital referral.

- Confirm that menorrhagia has been present for several menstrual cycles
- Request a full blood count in all these women, but endocrine investigations such as thyroid function tests are not routinely necessary. An endometrial biopsy is not required in the initial assessment of menorrhagia
- Tranexamic acid and mefenamic acid are effective treatments for reducing heavy menstrual blood loss, even in women who have an intrauterine contraceptive device in situ. You can also use combined oral contraceptives, a progestogen releasing intrauterine device, or other long acting progestogens to reduce menstrual blood loss.

Practical management tips**Investigation**

Dysfunctional uterine bleeding is a diagnosis of exclusion. Exclude other conditions such as uterine fibroids, endometrial polyps, and systemic diseases by appropriate investigations, such as a transvaginal ultrasound scan and a full blood count. In adolescent patients, perform investigations for a coagulopathy. In selected cases arrange for an endometrial biopsy with or without hysteroscopic assessment to exclude endometrial cancer.

Only 2% of endometrial carcinomas occur before age 40. They are more common in nulliparous women. Diabetes, obesity, and polycystic ovary syndrome

predispose women to developing endometrial carcinoma.

Postmenstrual scans are often useful; after menstrual shedding, the endometrium should be at its thinnest, and polyps and cystic areas are more noticeable.

Treatment

Tranexamic acid and mefenamic acid are among the most effective first line drugs for treating menorrhagia. Norethisterone, taken orally in the luteal phase, is probably one of the least effective agents, despite it being used extensively in the past.

Women needing contraception have a choice of combined oral contraceptive, the levonorgestrel releasing intrauterine system, or long acting progestogens.

Danazol, gestrinone, and gonadotrophin releasing hormone analogues are all effective in terms of reducing menstrual blood loss, but side effects and costs limit their long term use. They have a role as second line drugs for a short period in women waiting for surgery.

Endometrial ablation with the Nd:YAG laser, resectoscope, rollerball, and, more recently, other options such as bipolar devices, direct hot saline instillation, microwaves, and thermal balloons, are all available with evidence to support their use.

When should I refer my patient?

Refer patients with severe bleeding that is producing anaemia (haemoglobin level <80 g/l), irregular bleeding in women in their late 40s, and bleeding that is unresponsive to medical treatment.

Common pitfalls

Irregular heavy bleeding in women in their late 40s is often attributed to starting the menopause. This may be true, but you still need to investigate. Endometrial carcinoma can occur in the late 40s. About 6% of endometrial cancers can occur with heavy regular bleeds. Pathology can be missed on the ultrasound scan in the presence of an intrauterine contraceptive device. Reflections and shadowing can be difficult to assess, even by an experienced ultrasonographer.

- 1 National Institute for Health and Clinical Excellence. *Diagnosis and management of heavy menstrual bleeding*. London: NICE (in development).
- 2 Royal College of Obstetricians and Gynaecologists. *National evidence-based clinical guidelines. The initial management of menorrhagia*. London: RCOG, 1998.

Confusion?

As bad luck would have it, both my grandfather and his mother, my great grandmother, ended up in the same hospital at the same time. As is only right in this day and age, they were in separate, single-sex wards.

My father and I went to visit them on our first available weekend. Deciding how best to divide up the allowed visiting time, we decided to see one each and then swap at half time. As we were about to do this, we noticed the shocked expression on the nearby nurses' faces.

It turned out that they had thought that my grandfather was confused because he kept asking to

see his mother. This had kept him in hospital an extra week to run tests. The only test that they hadn't run was to find out if, indeed, his mother was alive. If they'd checked this they would have found her on the next ward, very much alive, with a broken clavicle. She was only 92.

The lesson? Sometimes it's not the patient who's confused.

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