

## **Case study**

MH a 43 old woman presented with a one year history of increasingly heavy but painless periods. The period lasts 8 days. Flooding and clots occur on days 1 and 2, confining the patient to home for those days. Her menstrual cycle is regular, but has noticed that her PMS symptoms are much worse over the last year. She reports feeling exhausted most of the time. Her husband had a vasectomy several years ago. She has had three vaginal deliveries, and her last smear was 2 years ago, and was normal. She is a non smoker. There is no other relevant history.

Examination reveals some facial pallor. Pelvic examination reveals a bulky uterus. Rest of the examination was unremarkable. A full blood count, iron studies, TSH and pelvic ultrasound were ordered. Haemoglobin was 12.5 g/dl, ferritin 6 µg/L and TSH 3.2mIU/L. Pelvic ultrasound showed a slightly enlarged uterus, but no intrauterine pathology. The patient was started on one iron tablet daily. Following a normal HVS and endocervical Chlamydia swab a levonorgestrel intrauterine system (Mirena®) was inserted into the uterine cavity with her next menses. A review after 3 months revealed that the patients' menstrual loss was greatly reduced already. She felt much improved and was very happy to continue with her current management.

## **Heavy Menstrual Bleeding (HMB)**

### **Definition**

Heavy menstrual bleeding can be objectively defined as a blood loss of more than 80 ml with each menstruation, but a more recent definition reflects the more widespread impact of heavy menstrual bleeding on every aspect of their lives - excessive menstrual blood loss which interferes with the woman's physical, emotional, social, and material quality of life. Any interventions should aim to improve quality of life measures.

Approximately 5 % of women aged 30-49 years consult their general practitioners each year with HMB, but the actual prevalence is thought to be higher about 9-14% worldwide. There is a strong association between iron deficiency anaemia and HMB in women of reproductive age, with a prevalence of 9-12% in this age group.

### **Aetiology**

The aetiology of heavy menstrual bleeding is varied. Dysfunctional uterine bleeding is defined as heavy menstrual bleeding in the absence of a structural or histological abnormality, and is the commonest cause of HMB. It is thought to be due to disordered endometrial prostaglandin production, and accounts for approximately 60% of all cases of HMB. Other causes include uterine fibroids which can account for up to 10% of HMB, endometrial polyps and much less commonly endometrial cancer. Coagulation disorders such as Von Willebrands disease causes longstanding HMB from menarche and is usually detected at an earlier age.

### **Investigations**

Physical examination should include looking for clinical signs of iron deficiency anaemia, abdominal and pelvic examination. Assessment for suitability for a levonorgestrel-releasing intrauterine system (LNG-IUS) can be done with the pelvic examination. As mentioned before iron deficiency is often seen with HMB. A full blood count and iron studies should be done. Hypothyroidism could be considered if there are any other symptoms or history of thyroid disease present but it is not indicated as a routine investigation for HMB. If HMB has been present since menarche testing for coagulation disorders such as Von Willebrands disease should be considered. There is no role for female hormone testing in women with HMB.

Pelvic ultrasound is not indicated as a first line investigation unless

1. Uterus is palpable abdominally
2. Vaginal examination reveals a mass of uncertain origin
3. Pharmaceutical treatment fails
4. History suggests HMB with structural or histological abnormality, with symptoms such as intermenstrual or postcoital bleeding, pelvic pain and/or pressure symptoms.

In reality clinicians often feel reassured by a normal pelvic ultrasound result and it is frequently requested as a routine investigation in the assessment of HMB.

In women over 45, an endometrial biopsy should be done in the presence of persistent intermenstrual bleeding, and in women for whom treatment has failed or been ineffective. Endometrial biopsies are less commonly done in Ireland, where specialists favour hysteroscopy, which allows for direct visualisation and more extensive endometrial sampling.

## **Treatment options for HMB**

These can be divided into

- Medical
- Non-hysterectomy surgical options
- Hysterectomy

### **Medical management**

These can be considered when there is no structural or histological abnormality, or when fibroids present are no greater than 3cm in diameter with no uterine cavity distortion. If the patient has no objection to using hormonal preparations or contraception, treatments should be considered in the following order

1. LNG- IUS Mirena®

The norgestrel-coated intrauterine device has become the mainstay in the treatment of HMB. Women should be counselled that irregular bleeding for up to 6 months can occur, and this can help with subsequent compliance. Side effects include acne, headache and breast tenderness, most of which are transient. Secondary to the excellent reduction in menstrual

blood loss the IUS also provides endometrial protection if oestrogen replacement is needed in later years for relief of menopausal symptoms.

## 2. Tranexamic acid/ NSAIDs/Combined Oral Contraceptives(COC)

Tranexamic acid (Cyklokapron®) is a non hormonal treatment option for the management of HMB. It is an antifibrinolytic agent which is taken orally on the heaviest menstrual flow days. Studies show up to a 60% reduction in blood loss. It is taken in a dosage of 500mg qds and is reasonably well tolerated. Side effects include gastrointestinal upset, and its use is contraindicated in women with a personal or family history of venous thromboembolism. This is the recommended treatment option while organising appropriate investigation and definitive treatment of HMB.

NSAIDs are another non hormonal option for women. Mefenamic acid is the most commonly used in dosages of 500 mg TDS on heaviest days of menstrual flow. This has an efficacy rate of 20-50% in terms of reduction of menstrual flow. In the presence of dysmenorrhoea this may be a preferred treatment option.

The combined oral contraceptive can be used with good effect in women of this age group who are non smokers. Qlaira® has been licensed for use in control of HMB as well as contraception. Shortening of the pill free interval helps to reduce blood loss. Yaz® has 24 active pills with a 4 day interval which can be helpful. Alternatively a 21 day preparation can be used on a continuous basis to avoid withdrawal bleeds.

These treatment modalities should be stopped after 3 cycles if symptoms have not improved. However another pharmaceutical option can be tried rather than referral for surgery.

## 3. Norethisterone – Primulot N®

This potent progestogen is given orally in a regimen of 5mg TDS from days 5 to 26. This has been somewhat superseded by recent advances such as Mirena®, but is very useful for rapid cessation of HMB associated with anovulatory cycles, which are often very prolonged bleeds.

## **Surgical management**

In women with large fibroids and HMB, and other significant symptoms such as dysmenorrhoea or pressure symptoms surgery should be considered as a possible first line treatment.

### **Non hysterectomy surgical options**

#### 1. Uterine artery embolisation (UAE)

This is recommended for women with HMB associated with large fibroids greater than 3 cm. It is particularly suitable for women who want to retain their fertility.

## 2. Endometrial ablation

This can be considered in women who have a uterus smaller than a ten week size, and fibroids no larger than 3cm. Subsequent pregnancy is also to be avoided, so adequate contraception needs to be provided.

## 3. Myomectomy

### **Hysterectomy**

This is a much less common procedure nowadays due to advances in both the medical management of HMB and less invasive surgical techniques. General principles surrounding hysterectomy for HMB include a preference for vaginal over abdominal, and ovarian preservation if healthy.

### References

1. Heavy Menstrual Bleeding – Clinical Guideline  
January 2007 National Institute for Clinical Excellence (NICE)
2. Lethaby AE, Cooke I, Rees M. Progesterone/progestogen releasing intrauterine systems for heavy menstrual bleeding. (Cochrane Review). In: *Cochrane Database of Systematic Reviews*, Issue 4, 2005. Oxford: Update Software

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### **Treatment options for medical management of HMB**

LNG-IUS

Tranexamic acid

NSAIDS

COC

Progestogens

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### **Reasons for referral**

Over 45 years

Palpable uterus on abdominal examination

Fibroids over 3 cm in diameter on pelvic ultrasound

Failure of treatment

Intermenstrual bleeding