MENORRHAGIA – AN OVERVIEW

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Dr Johnstone Miheso, senior house officer at the Royal Lancaster Infirmary (RLI) describes the commonest cause of iron deficiency in the western world.

INTRODUCTION

Menorrhagia refers to a complaint of excessive cyclical menstrual loss occurring over several consecutive cycles in the reproductive years of a woman's life. It is defined objectively as menstrual flow of over 80 millilitres per cycle. In clinical practice it is entirely based on a woman's subjective assessment of her menstrual loss over several cycles. The presence of intermenstrual and postcoital bleeding has to be excluded in this definition.

Heavy menstrual loss has an enormous implication on the quality of life of a woman. Disruption of social activities, work, holidays and hobbies results in anxiety, embarrassment, disturbances in sexual life and even depression. There is also morbidity arising from menorrhagia and hospitalisation and blood transfusion are not uncommon.

INCIDENCE AND SIGNIFICANCE

The first line of treatment of menorrhagia is the use of non-steroidal anti-inflammatory mefenamic acid, oral contraception and levonorgestrel intrauterine resection, endometrial ablation and ultimately hysterectomy. The aim of treatment is to decrease the amount of blood loss and also improve the quality of life.

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In the United Kingdom (UK), 1 in 20 women aged 30 to 49 consults a general practitioner (GP) every year with menorrhagia(1). Overall, 5% of women in the UK in their reproductive years will seek help for this symptom annually(2) and by the end of the reproductive years the risk of hysterectomy (primarily for menstrual disorders) is 20%(3).

Population studies have shown that only 10% of women have menstrual loss of over 80mls whereas nearly a third of women consider their menstruation excessive(4). This obviously creates a significant workload for health services.

CAUSES

Menorrhagia refers to a complaint of excessive cyclical menstrual loss occurring over several consecutive cycles in the absence of any other abnormalities (dysfunctional uterine bleeding). Some disorders associated with excessive menstrual bleeding include fibroids, adenomyosis, precancerous conditions, polyps, infections and haematological disorders.

Endocrine disorders do not usually cause menorrhagia except as endocrine consequences of anovulation. Equally, only in selected populations, haemostatic disorders are a rare cause of menorrhagia despite suggestion to the contrary. Laboratory studies have shown several abnormalities in the endometrium of women with menorrhagia. The increased fibrinolytic activity and increased production of prostaglandins(5) providing the rationale for treatment.

In the western world, menorrhagia is the commonest cause of iron deficiency anaemia and low haemoglobin may objectively predict heavy menstrual loss(6).

INVESTIGATIONS

In general practice it is imperative to obtain a thorough gynaecological history. There should be evidence of regular and heavy cyclical menstruation over several cycles. This should be followed with a general and abdominopelvic examination.

Attempts at estimation of blood loss have been done using the pictorial blood loss assessment charts (PBACs), which measure the degree of staining of pads as well as the number of pads used. The gold standard remains the use of haematini technique, which requires a woman to collect the sanitary pads she uses for measurement. However, these are of limited clinical use.

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The first line of treatment of menorrhagia is the use of antifibrinolytic tranexamic acid and non-steroidal anti-inflammatory mefenamic acid. Tranexamic acid reduces the
menstrual flow by one half to one third. Both have the advantage of being taken during menstruation itself and this increases compliance. They are useful in patients who do not require contraceptive treatment.

Combined contraceptive pills are both effective as contraception and for menorrhagia, especially for anovulatory cycles as they impose a cycle. A 53% reduction in menstrual loss was reported in one randomised control trial.

Mirena coil (LNG20-IUD) is loaded with levonorgestrel that is released at the rate of 20 micrograms daily which acts locally, minimising systemic progesterone side effects. It induces atrophy, with reduction in menstrual loss in more than 80% in three to six months and more than 90% in 12 months. Patients may experience breakthrough bleeding up to 25-55% in the first few months. Compliance can be enhanced by pre-treatment counselling. This intrauterine contraception device (IUCD) is advocated as an alternative to surgery.

Second line drug treatment comprises of androgens (danazol, gestrinone) and gonadotrophin-releasing hormone analogues which are effective but their use is limited by their side effect profile. Danazol, a 17a-ethinyl testosterone, inhibits ovulation and causes low circulating estrogen levels and endometrial atrophy. It is licensed for use for menorrhagia.

Surgical Treatment
There are many modalities of surgical treatment. These are used when the medical treatment fails or when there are specific indications for them. The options range from hysterectomy to endometrial resection and endometrial ablative techniques.

Hysterectomy is considered in older women who have completed their family. It is the only procedure which guarantees complete amenorrhea. It is associated with surgical and anaesthetic risks. Approximately 1 in 30 women suffer an adverse event during or soon after an operation and a mortality rate of 0.4-1.1 per 1000 operations has been described. There are cost implications with increased hospital stay.

Endometrial ablative procedures were introduced 20 years ago. The aim is to completely destroy the endometrium to the basal layer resulting in fibrosis of uterine cavity and amenorrhea. They employ thermal, electrical or laser energy. Efforts must be made to exclude organic or structural causes and they are not suitable for women wishing to preserve fertility. Obvious advantages include reduced hospital stay, less analgesia, shorter recovery and return to work periods.

First generation endometrial ablative techniques are transcervical resection of the endometrium (TCRE), loop diathermy electrode and roller ball ablation. They all require direct vision hysteroscopy and success rate depends on the skills of the operator. Common complications include electrosurgical burns, uterine perforation, haemorrhage, fluid overload and infections. The MISTLETOE (minimally invasive surgical techniques, laser endothermal or endoresection) study reported a complication rate of 6.6 per 1000 procedures.

Second generation ablative procedures were introduced with the aim of providing simple and more effective treatments which are less operator dependent. They include thermal balloon endometrial ablation (TBEA), radio-frequency (thermoregulated) balloon endometrial ablation, 3D bipolar radiofrequency endometrial ablation, hydro-thermal endometrial ablation, microwave endometrial ablation, diode laser hyperthermy, cryoablation and photodynamic therapy.

The National Institute for Clinical Excellence (NICE) guidelines recommend thermal balloon ablation and
microendometrial ablation as treatment alternatives to surgery for menorrhagia. In Morecambe Bay Health Trust thermal balloon ablation is done using the Gynecare Thermachoice uterine balloon therapy system. In a period of one year ending June 2005 at the RLI, 56 women underwent TBEA, 52% of these due to menorrhagia alone and 43% due to a combination of menorrhagia and dysmenorrhea. In 93% of the cases there were no complications and 63% achieved complete amenorrhea at three months. Long term follow-up of these patients is still ongoing.

Thermal balloon ablation endometrial ablation involves a single-use latex or silicon balloon catheter housing a healthy element and two thermocouples, and an umbilical catheter. The length of the uterine cavity ought to be less than 12 centimetres. It is contraindicated in latex allergy, in cases of previous classical Caesarean section and postoperative uterine walls with a thickness of less than 8 millimetres.

Microwave endometrial ablation uses microwaves fixed at 9GHz to destroy endometrium. The instrument can be cleaned, sterilised and reused and it can be performed in women with moderate fibroids.

Above all, patients with menorrhagia need support and encouragement during the course of their treatment. Good communication between the patient and her doctor is an essential key to the success of any mode of treatment adopted.

REFERENCES

4. MORI; Women’s Health in 1990. Market Opinion and Research International, 1990 (Research study conducted on behalf of Parke-Davis Research Laboratories)