

# Modern approaches to management of menorrhagia

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**Menorrhagia and its management is a common problem in both the primary health-care setting and in hospitals. There is an increasing number of options for management of menorrhagia and these will be discussed in this article.**

**M**enorrhagia is one of the most common clinical problems encountered by both GPs and gynaecologists. Five per cent of women between 30 and 49 years of age consult their GP each year with this problem, and it represents 21% of all gynaecological referrals. Once referred to a gynaecologist surgical intervention is likely, with 60% of patients in one study undergoing a hysterectomy within 5 years of referral (Coulter et al, 1991).

The diagnosis of menorrhagia is notoriously difficult. The objective definition of menorrhagia is a blood loss of >80 ml/cycle, but measured loss is usually confined to research. The diagnosis of menorrhagia is more commonly based on a patient's history or the use of pictorial blood loss assessment charts. In hospital practice, only 40% of women with a convincing history for menorrhagia will have a loss of >80 ml/cycle (Chimbira et al, 1980). This is important as medical treatment for menorrhagia is unlikely to be effective in those with a normal blood loss and surgical treatments carry inherent risks.

### MEDICAL MANAGEMENT

Patient education and understanding of the problem and its management are paramount to compliance and success. Reduction in menstrual loss, rather than amenorrhoea, should be emphasized as the goal of treatment. The Royal College of Obstetricians and Gynaecologists (RCOG) guidelines on the management of menorrhagia in secondary care recommend that patients be involved in the decision-making process regarding their treatment and be provided with appropriate information to achieve this. Further guidelines from the RCOG on the initial management of menorrhagia recommend medical management as first-line treatment.

There is no place in the modern management of menorrhagia for the use of low-dose luteal phase progestones, which is the most frequently prescribed therapy in primary care. However, there may be a place for norethisterone 5–10 mg three times daily for 21 days, particularly in patients with anovulatory cycles (Lethaby et al, 1999).

There is evidence confirming that tranexamic acid and mefenamic acid are effective treatments for reducing heavy periods (50% vs 30%) (Bonnar and Sheppard, 1996). Tranexamic acid achieves a greater reduction in objective menstrual blood loss when compared to other therapies, and is therefore the first-line drug of choice, particularly in patients with ovulatory cycles.

Other hormonal treatments include danazol and the oral contraceptive pill. A randomized controlled trial showed that both reduced blood loss, by 49% and 43% respectively (Fraser and McCarron, 1991). Other second-line drugs such as gestrinone and gonadotrophin-releasing hormone analogues have been shown to be effective, but side-effects limit their long-term use.

### MEDICATED INTRAUTERINE DEVICES

The Mirena intrauterine system (Shering Health Care Ltd, Burgess Hill) is a levonorgestrel-loaded intrauterine system (LNG-IUS) that delivers 20 µg/24 hours of levonorgestrel directly to the endometrium. The period for which the system can be inserted has recently been extended from 3 to 5 years. It is presently only licensed for contraceptive use in the UK. The endometrium is rendered inactive and resistant to the proliferative effects of oestrogen, therefore Mirena has a potential role in the treatment of women with heavy and irregular menstrual bleeding.

A small randomized controlled trial comparing the LNG-IUS and norethisterone (5 mg three

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times daily for 21 days) demonstrated that the former reduced menstrual blood loss by 94% and the latter by 87%. However, those using the LNG-IUS were much more likely to continue treatment than the medical group, 76% vs 22% (Irvine et al, 1998).

A further randomized controlled trial compared the LNG-IUS with transcervical resection of the endometrium (TCRE) (Kittlesen and Istre, 1998). This study, with small numbers and short follow-up, reported that both techniques were highly effective at reducing menstrual blood loss, but 20% of patients discontinued the LNG-IUS prematurely because of side-effects. The LNG-IUS has the advantage that it avoids surgery, and is reversible if future fertility is required. Kittlesen and Istre concluded that 60–70% of patients scheduled for hysteroscopic surgery could be treated by this method. A larger randomized controlled trial (Satisfaction with Mirena and Ablation a Randomised Trial; SMART) comparing the LNG-IUS with hysteroscopic surgery for menorrhagia is currently underway, using quality of life assessments as its primary outcome measure, and its results are awaited with interest.

There has not been a randomized, controlled trial comparing the LNG-IUS and hysterectomy, but one study recruited 50 patients with a history of failed medical treatment awaiting hysterectomy or TCRE. Following insertion of the Mirena system, 41 of the 50 patients recruited (82%) were taken off the waiting list for surgery, because of a reduction in mean blood loss score, reduction of dysmenorrhoea (80%), and improvement in premenstrual syndrome (56%) (Barrington and Bowen-Simpkins, 1997).

## **ENDOMETRIAL ABLATION AND RESECTION**

Hysteroscopic destruction of the endometrium was introduced in the mid-80s as an alternative to hysterectomy for women with menorrhagia. Despite this, in 1993–94 only 9 945 therapeutic hysteroscopic procedures were performed compared to 73 517 hysterectomies, of which nearly half would have been for menorrhagia. Endometrial ablation and resection techniques have been carefully evaluated with large, long-term cohort studies (O'Connor and Magos, 1996; Phillips et al, 1998), randomized controlled studies (Dwyer et al, 1993; Pinion et al, 1994; O'Connor et al, 1997) and a national audit (the MISTLETOE study, Overton et al, 1997), which confirm their safety and efficacy.

A randomized controlled trial, comparing medical treatment of menorrhagia with hysteroscopic management, demonstrated that at 2 years

women were statistically more likely to find endometrial resection more acceptable than medical therapy. In addition the women were more likely to be more satisfied, more willing to have similar treatment again, and more likely to have their quality of life restored to a normal level (Cooper et al, 1999).

Data from randomized controlled trials would suggest that hysteroscopic surgery, when compared to hysterectomy, is associated with a lower incidence of complications and more rapid recovery. Patients experienced similar satisfaction rates when compared with hysterectomy (75–85% vs 89–96%) (Dwyer et al, 1993; Pinion et al, 1994; O'Connor et al, 1997). Based on the results of these trials, it was concluded that hysteroscopic surgery could be recommended as an alternative to hysterectomy for menorrhagia.

In addition, there is evidence that hysteroscopic surgery for the management of menorrhagia has lower direct costs (as a result of shorter operative time, shorter hospital stay and lower complication rates) than hysterectomy. Indirect costs, based on recovery time and lost productivity, are also reduced. Even when repeat surgery costs are taken into account, the cost advantage over hysterectomy still holds.

## **SECOND GENERATION ABLATION TECHNIQUES**

Despite the evidence for ablation and resection, the hysterectomy rate for the management of menorrhagia has not fallen. Data from the MISTLETOE study indicated that most doctors who performed hysteroscopic surgery for menorrhagia only performed them infrequently. Of doctors who took part in the study, 60% performed less than 10 cases in the 18-month data collection period. Primarily to meet the needs of this large group of clinicians, there are a number of second generation ablation devices using a variety of different technologies (thermal balloons, hot water, microwave, monopolar and bipolar electrosurgery, diode laser and cryoablation). These devices aim to make endometrial ablation easier to perform with less skill and training, and it may be possible to perform such procedures under local anaesthesia.

These newer techniques need to be at least as effective and safe as the existing hysteroscopic methods. With the rapid development of these techniques, it is important that they are evaluated as thoroughly as traditional methods of ablation and resection. Most of the very limited published data concerning the use of second generation techniques are from small, non-randomized, short-term follow-up studies, the results of which have to be viewed with caution. Until further pub-

lished data are available on the second-generation techniques, it is impossible to predict their role in the future management of menorrhagia or any impact that they may have on hysterectomy rates.

### HYSTEROSCOPIC SURGERY AND MANAGEMENT OF SUBMUCOUS FIBROIDS

The incidence of intrauterine pathology in women complaining of menorrhagia, based on results from previously reported studies of hysteroscopic surgery, varies between 21 and 34% of procedures (O'Connor and Magos, 1996; Phillips et al, 1998). Phillips et al found that treatment of intrauterine pathology (polyps and fibroids) reduced the subsequent chance of requiring hysterectomy by 74% compared to women who did not have co-existing pathology.

Hart et al (1999) followed up 122 consecutive patients who had undergone transcervical resection of fibroids for a period up to 8 years. They found patient satisfaction rates remained high at 72%, despite a 21% repeat surgery rate. The paper recommended hysteroscopic myomectomy as an effective way to manage symptomatic submucous leiomyomata; however, the size and location of the fibroids is important in terms of success.

### HYSTERECTOMY

Hysterectomy for menorrhagia is 100% successful in producing amenorrhoea and is associated with very high levels of patient satisfaction (Pinion et al, 1994). However, hysterectomy, by whatever method it is performed, is a major surgical procedure with significant physical and psychological complications. A prospective audit (The VALUE study) reported that 74% of 15 379 hysterectomies studied in 1995 for dysfunctional uterine bleeding, were still being performed by the abdominal route, with 21.6% vaginally and only 4.4% laparoscopically. This is despite literature reporting the advantages of both the vaginal and laparoscopic route over the abdominal route.

#### KEY POINTS

- Menorrhagia is a common problem, accounting for 12% of gynaecological referrals.
- There is class A evidence that tranexamic acid should be the first-line drug management for ovulatory menorrhagia.
- There is class A, B and C evidence to suggest that hysteroscopic ablation or resection is a suitable alternative to hysterectomy for menorrhagia.
- The levonorgestrel-loaded intrauterine system appears to be effective in the management of menorrhagia and is being evaluated further comparing it to hysteroscopic surgery.
- If hysterectomy is required current evidence suggests the vaginal route with or without laparoscopic assistance should be performed until further class A evidence is available.

### CONCLUSIONS

There is sufficient evidence in the literature to suggest that there are alternatives to hysterectomy in the modern management of menorrhagia. Patients need to be fully informed about the nature of their problem and its management. Reduction in menstrual loss, rather than amenorrhoea, should be emphasized as the goal of treatment. If patients are appropriately counselled and selected, hysterectomy should only be performed when alternative treatments have failed. When hysterectomy is selected, the available evidence suggests that it should be performed by the vaginal route, with or without laparoscopic assistance. **HM**

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Barrington JW, Bowen-Simpkins P (1997) The levonorgestrel intrauterine system in the management of menorrhagia. *Br J Obstet Gynaecol* **104**: 614–6

Bonnar J, Sheppard BL (1996) Treatment of menorrhagia during menstruation: randomised controlled trial of ethamsylate, mefenamic acid and tranexamic acid. *Br Med J* **313**: 579–82

Chimbira TH, Anderson AB, Turnbull AC (1980) Relation between measured menstrual blood loss and patient's subjective assessment of loss, duration of bleeding, number of sanitary towels used, uterine weight and endometrial surface area. *Br J Obstet Gynaecol* **87**: 603–9

Cooper KG, Parkin DE, Garratt AM, Grant AM (1999) Two-year follow up of women randomised to medical management or transcervical resection of the endometrium for heavy menstrual loss: clinical and quality of life outcomes. *Br J Obstet Gynaecol* **106**: 258–65

Coulter A, Bradlow J, Agass M, Martin-Bates C, Tulloch A (1991) Outcomes of referrals to gynaecology outpatients clinics for menstrual problems: an audit of general practice records. *Br J Obstet Gynaecol* **98**: 789–96

Dwyer N, Hutton J, Stirrat GM (1993) Randomised controlled trial comparing endometrial resection with abdominal hysterectomy for the surgical treatment of menorrhagia. *Br J Obstet Gynaecol* **100**: 237–43

Fraser IS, McCarron G (1991) Randomised trial of 2 hormonal agents and 2 prostaglandin-inhibiting agents in women with a complaint of menorrhagia. *Aust NZ J Obstet Gynaecol* **31**: 66–70

Hart R, Molnar BG, Magos A (1999) Long-term follow up of hysteroscopic myomectomy assessed by survival analysis. *Br J Obstet Gynaecol* **106**: 700–5

Irvine GA, Cambell-Brown MB, Lumsden MA, Heikila A, Walker JJ, Cameron IT (1998) Randomised comparative trial of the levonorgestrel intrauterine system and norethisterone for the treatment of idiopathic menorrhagia. *Br J Obstet Gynaecol* **105**: 592–8

Kittelsen N, Istre O (1998) A randomised study comparing levonorgestrel intrauterine system (LNG-IUS) and transcervical resection of the endometrium in the treatment of menorrhagia: preliminary results. *Gynaecol Endosc* **7**: 61–5

Lethaby A, Irvine G, Cameron I (1999) Cyclical progestagens for heavy menstrual bleeding. In: *The Cochrane Library*. Issue 1. Update Software, Oxford

O'Connor H, Magos AL (1996) Endometrial resection for menorrhagia: evaluation of results at five years. *N Engl J Med* **335**: 151–6

O'Connor H, Broadbent JAM, Magos AL, McPherson K (1997) Medical Research Council trial of endometrial resection versus hysterectomy in the management of menorrhagia. *Lancet* **349**: 897–901

Overton C, Hargreaves J, Maresh M (1997) A national survey of the complications of endometrial destruction for menstrual disorders. *Br J Obstet Gynaecol* **104**: 1351–9

Phillips AG, Chien PFW, Garry R (1998) Risk of having a hysterectomy after endometrial laser ablation — analysis on 1000 consecutive cases. *Br J Obstet Gynaecol* **105**: 897–903

Pinion SB, Parkin DE, Abramovich DR, Najji A, Alexander DA, Russell IT, Kitchener HC (1994) Randomised trial of hysterectomy, endometrial laser ablation, and transcervical endometrial resection for dysfunctional uterine bleeding. *Br Med J* **309**: 979–83