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Treatment of Dysfunctional Abnormal Uterine Bleeding

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INTRODUCTION

In Chapters 9 and 10 we discussed the diagnosis and causes of abnormal uterine bleeding (AUB). We introduced the PALM-COEIN classification system (polyp, adenomyosis, leiomyoma, malignancy and hyperplasia, coagulopathy, ovulatory dysfunction, endometrial, iatrogenic, and not yet classified) from the International Federation of Gynecology and Obstetrics (FIGO) (Chapter 9). In this chapter we will discuss treatment in women with dysfunctional abnormal bleeding (the O and E from the PALM-COEIN).

A normal cycle is between 24 and 35 days with a period of <7 days. The mean menstrual blood flow during a period is around 35 ml. Blood loss of >80ml and/or a period >7 days are regarded as abnormal¹. When the bleeding pattern is regular this almost always reflects a regular ovulation, while cycles that are shorter than 24 days or longer than 35 days, or that vary in length by more than

10 days from one cycle to the next are likely to be anovulatory.

In many low-resource settings women with AUB often delay seeking medical care because of cultural beliefs that a heavy menstrual flow is healthy².

MINIMAL CARE FOR WOMEN WITH DYSFUNCTIONAL ABNORMAL UTERINE BLEEDING

For detailed information, please see Chapters 9 and 10. Rule out pregnancy, do a speculum examination preferably with visual inspection with acetic acid (VIA) (Chapter 12) and check hemoglobin. If you can, do an ultrasound.

TREATMENT OPTIONS FOR DYSFUNCTIONAL ABNORMAL UTERINE BLEEDING

The treatment options for dysfunctional AUB are summarized in Table 1.

Table 1 Overview of treatment of dysfunctional abnormal uterine bleeding

	<i>Useful if pregnancy is desired</i>	<i>Useful for contraception</i>	<i>Useful for irregular periods</i>	<i>Level of evidence*</i>	<i>Contraindicated in venous thrombosis</i>	<i>Average costs/month[†]</i>
NSAIDs	Yes	No	No	2	No	USD 0.64
LNG-IUD	No	Yes	Often amenorrhea but also irregular bleeding in beginning	1	No	USD 2.56
Tranexamic acid	Yes	No	No	1	Relatively	USD 9.60
COC	No	Yes	Yes	2	Yes	USD 0.64
Cyclic progestogen	No	No	Yes	1	No	USD 2.56
Hysterectomy	No	Yes	Yes	1	No	n/a

NSAIDs, non-steroidal anti-inflammatory drugs; LNG-IUD, levonorgestrel intrauterine device; COC, combined oral contraceptives; USD, US dollar; n/a not available.

*Level of evidence for reduction in menstrual bleeding. [†]Average costs may vary according to availability on national drug list.

Medical treatment

- *Anti-fibrinolytic therapy* with tranexamic acid causes a greater reduction in objective measurements of heavy menstrual bleeding when compared to placebo or other medical therapies [non-steroidal anti-inflammatory drugs (NSAIDs), oral luteal phase progestogens] and with no increase in side-effects³. The dose is 1 g four times a day for the first 3–4 days of the period (when the bleeding is heavy). Oral tranexamic acid is not on the World Health Organization (WHO) essential drug list and may not be available in your setting.
- *NSAIDs* like naproxen, ibuprofen and diclofenac are effective in reduction of the menstrual blood flow, but are less effective than tranexamic acid or a levonorgestrel-intrauterine device (LNG-IUD)⁴. An advantage is that they are cheap, widely available and also helpful against dysmenorrhea.
- *Combined oral contraceptives (COC)* can be used cyclically and continuously. Good studies about the efficacy of COC in dysfunctional AUB are lacking. When used cyclically they reduce menstrual blood flow⁵. When used continuously they are very effective in reducing the number of periods a woman has. In continuous use of COC women take one hormone-containing tablet every day and discard the tablets that do not contain hormones. They also do not have a stop week. Women can do this continuous regimen for 3–6 months. When they start having irregular blood loss, they should have a stop week and then restart the continuous treatment.
- *LNG-IUD (Mirena®)*: 20–30% of women will have amenorrhea after 6 months and 70–90% a reduction in menstrual blood flow. Ten per cent of women will have irregular blood loss due to the LNG-IUD and are dissatisfied. It is a very good contraceptive and also works when dysmenorrhea, adenomyosis, endometriosis or small fibroids are present⁶. It is not on the WHO essential drug list but is becoming more available in low-resource settings as a contraceptive.
- *Progestogen therapy* [e.g. medroxyprogesterone acetate 5 mg tablets (1–2 tablets a day from cycle day 16–28] or lynestrenol 5 mg/day (during 21 days of the cycle) results in a significant reduction of menstrual blood loss, but its strong side-effects limit long-term use⁷. It is

especially suitable for short-term treatment of menorrhagia.

Surgical options

In the past many dilatation and curettages (D&Cs) were done, but this is now considered obsolete. A D&C is only a temporary treatment: heavy blood loss will come back after 1 month⁸. Only do a D&C (preferable a manual vacuum aspiration, MVA) when you need to obtain a specimen for histology.

Hysteroscopic endometrium resection or transcervical ablation procedures may be available in some settings². Hysterectomy is also a good option² if women do not want to preserve their fertility anymore, but it is not available and affordable for every woman in the world. In low-resource settings the mortality of hysterectomies is reported to be up to 1.6%⁹. We suggest women should first have medical treatment for dysfunctional AUB, before they decide to have a hysterectomy.

Acute severe menstrual blood loss

Sometimes a patient will visit you with very heavy uterine bleeding. She might become hemodynamically unstable. If necessary, resuscitate the patient first and obtain a blood sample for cross-matching. It is important to do full history taking and examination as described in Chapters 1, 9 and 10 to find the cause of the bleeding and treat accordingly.

When you cannot find a cause, several treatment options are available:

- *Uterine tamponade*: insert a Foley catheter in the uterus and inflate the balloon with 10–20 ml water. The balloon should be located in the uterine cavity to serve as a tamponade.
- Perform an emergency MVA or D&C (and send tissue for pathology).
- Administer tranexamic acid 1 g 3–4 times a day (intravenous tranexamic acid is on the WHO drug list).
- Give combined oral contraceptives in a high dose for 5 days, for example 2–4 tablets a day (sometimes women become nauseated: add an antiemetic drug) followed by 3 weeks 1 tablet COC daily.
- *Hysterectomy* (for abdominal hysterectomy, please see Chapter 19; vaginal hysterectomy is described below).

- There is no evidence on what the best treatment is in acute severe menstrual bleeding. Please take availability of treatment into consideration.

Performing a vaginal hysterectomy

Be sure about the indication for vaginal hysterectomy:

- Therapy-resistant dysfunctional AUB.
- Prolapse of the uterus (see Chapter 23). This is often done in combination with anterior or posterior wall repair or McCall (see Chapter 23).
- Hyperplasia with atypia of the endometrium (see Chapter 10).
- Endometrial cancer: this can be a challenging operation if you want to perform a vaginal hysterectomy since you also need to remove the ovaries. Only for experienced surgeons in women with a significant descensus of the uterus.
- Adenomyosis.
- Small fibroids.

Procedure

See also: http://www.glowm.com/?p=glowm.cml/section_view&articleid=41#intro and for a detailed description with images: <http://www.atlasofpelvicsurgery.com/5Uterus/9TotalVaginalHysterectomy/chap5sec9.html>

1. Spinal or general anesthesia. Lithotomy position.
2. Empty the bladder and perform a bimanual pelvic examination to make a final decision whether the hysterectomy can be performed vaginally or abdominally. Especially palpate the size and mobility of the uterus. Feel for adnexal masses. Put a tenaculum on the cervix to see how far you can pull the uterus downwards. This will help you to assess the degree of difficulty of the operation and support your decision to do or not to do a vaginal hysterectomy.
3. Disinfect and drape the patient.
4. Give a single dose of prophylactic antibiotics e.g. 1000 mg ampicillin combined with 500 mg metronidazole intravenously (IV).
5. Optional: apply sutures to the labia minora if they obstruct exposure.
6. Insert an Auvard speculum and an anterior wall speculum. Apply one or two tenacula on the cervix. Use traction on the tenaculum during surgery. Identify the cul-the-sac and the bladder fold.
7. Optional for hydrodissection: insert 10–20 ml lignocaine with adrenaline 1:200,000 in the mucosa of the cervix at the level of the posterior cul the sac and anterior on the bladder fold.
8. Circumcise the mucosa of the cervix (full thickness of the mucosa) and peel off the vaginal mucosa from underlying tissues for approximately 2 cm (according to the length of the cervix).
9. Grasp the posterior vaginal wall with a tissue forceps, identify the cul the sac and incise the peritoneum, and digitally widen this incision. You are in the abdominal cavity now. Feel if the posterior wall of the uterus is smooth, and no adhesions are present.
10. Optional: mark the posterior peritoneum with a suture.
11. Insert a long posterior wall speculum in the abdominal cavity and remove your Auvard speculum.
12. Enter the vesico-vaginal space by lifting the anterior vaginal wall mucosa with a forceps and carefully dissect between bladder and vaginal wall until you identified the anterior peritoneum.
13. Incise the anterior peritoneum, make sure you are intra-abdominal and digitally widen the incision.
14. Optional: mark the anterior peritoneum with a long suture.
15. Insert a long anterior wall speculum in the abdominal cavity (some surgeons prefer to do steps 12–15 before steps 9–11).
16. Clamp, cut and ligate the following structures alternating left and right. Stay very close to the uterus to avoid cutting the ureters:
 - a. sacro-uterine ligaments (leave the suture long)
 - b. paracervical tissue
 - c. para-uterine tissue with uterine artery
 - d. round ligament, tube and ovarian ligament. Leave this suture long.
17. Check ovaries if they look normal.
18. Check for hemostasis.
19. Do a purse-string suture of the peritoneum but make sure that you leave the stumps of 16a and 16d outside the abdominal cavity.

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20. Optional: when prolapse of the uterus was marked, suture the left and right sacro-uterine ligament together using a few stitches. Beware not to damage the ureters.
21. Close the mucosa of the vaginal wall. Use the suture from 16a (uterosacral ligament) to fix the vagina vault.
22. Check again for hemostasis, apply a bladder catheter and a vaginal pack for approximately 24h.

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