Abnormal Uterine Bleeding: Simple evaluation and management in premenopausal women

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Objectives

- Provide a framework to evaluate abnormal uterine bleeding (AUB)
- Review medical and surgical management options for AUB

Normal Uterine Bleeding

What is “normal”?  
- Cycle length 24 to 35 days  
- Menses 2-7 days  
- Less than 80 ml per cycle

Definitions

Excess Bleeding
- Menorrhagia: heavy, regular timing  
- Metrorrhagia: light, frequent intervals  
- Menometrorrhagia: heavy, frequent, irregular  
- Polymenorrhea: regular, <24 days apart

Decreased bleeding
- Oligomenorrhea: bleeding >35 days apart  
- Intermenstrual spotting: bleeding between menses
Definitions: Dysfunctional Uterine Bleeding

- Excessive noncyclic bleeding not caused by anatomic lesion, medications, pregnancy or systemic disease
- Primarily due to anovulation
- Most common cause of AUB
- Diagnosis of exclusion

The Menstrual Cycle

Case 1
A 33 yo G1P1 with three months of spotting in between her periods. She uses a copper IUD for contraception.

What is the differential diagnosis?

Evaluation: premenopausal women

Four steps:
1) Is it uterine?
2) Is she pregnant?
3) Name the bleeding.
4) Is it ovulatory?
Evaluation: premenopausal women

Four steps:
1) Is it uterine?
   • Detailed history to r/o GI/GU sources
   • Exam to r/o obvious vulvar, vaginal, cervical lesions

Case 1
A 33 yo G1P1 with three months of spotting in between her periods. She uses a copper IUD for contraception.

During the pelvic exam, the patient is noted to have a 3cm cervical polyp which is removed in the office. She has full resolution of her bleeding at 6 week f/u.

Case 2
A 41 yo G3P2 with 4 months of heavy periods. Menses lasts 7 days. She changes a tampon every hour for the first 3 days and has to get up at night to change tampons/pads.

Evaluation: premenopausal women

Four steps:
1) Is it uterine?
2) Is she pregnant?
   Check pregnancy test in at-risk women
Case 2

A 41 yo G3P2 with 4 months of heavy periods. Menses lasts 7 days. She changes a tampon every hour for the first 3 days and has to get up at night to change tampons/pads.

QUANTIFY BLEEDING
Most women with normal bleeding...
1) Change pads/tampons ≥9 hour intervals
2) Use fewer than 21 tampons/pads per cycle
3) Rarely change at night
4) Have clots <1 inch

Evaluation: premenopausal women

Four steps:
1) Is it uterine?
2) Is she pregnant?
3) Name the bleeding.
   • Detailed history will guide w/u and treatment
   • Consider menstrual calendar X 2-3 cycles

Case 2

A 41 yo G3P2 with 4 months of heavy periods. Menses lasts 7 days. She changes a tampon every hour for the first 3 days and has to get up at night to change tampons/pads.

She has...
1) Metrorrhagia
2) Menometrorrhagia
3) Menorrhagia

Evaluation: premenopausal women

Four steps:
1) Is it uterine?
2) Is she pregnant?
3) Name the bleeding.
4) Is it ovulatory?
   • Moliminal symptoms
Definitions

Ovulatory
- Menorrhagia: heavy, regular timing
- Polymenorrhea: regular, <24 days apart
- Intermenstrual spotting: bleeding between regular menses

Anovulatory
- Metrorrhagia: light, frequent intervals
- Menometrorrhagia: heavy, frequent, irregular
- Oligomenorrhea: bleeding >35 days apart
- Intermenstrual spotting: bleeding between menses

Ovulatory AUB: work-up
- Careful history (meds, thyroid symptoms) and examination (fibroids, adenomyosis)
- CBC, TSH, +/- VonWillibrand, coags
- Pelvic ultrasound
  - TVUS polyps and fibroids: sensitivity 80%, specificity 69%
  - Not useful to r/o hyperplasia and cancer!
  - Consider saline sono or office hysteroscopy

EMB?

Ovulatory AUB: Differential Diagnosis

- Anatomic
- Systemic Disease/Medication
- Idiopathic
- Fibroids
- Adenomyosis
- Polyps
- Hypothyroid
- VonWillibrands
- ITP
- Coumadin

AUB: work-up

38 yo G2P2 with 5 months of irregular bleeding. Bleeding is every 2-3 weeks, lasts 5-12 days, generally heavy.

Endometrial biopsy?
1) Yes
2) No
AUB: work-up

47 yo G2P2 with 5 months of irregular bleeding. Bleeding is every 2-3 months, lasts 2 days, light.

Endometrial biopsy?
1) Yes
2) No

Evaluation: EMB?

Endometrial Cancer Facts
- 4th most common cancer in women
- Average age 61 but 25% occur pre-menopausally
- 10% of post-menopausal women with bleeding have cancer

Evaluation: EMB?

- Endometrial Cancer
  - Presents at early stage with bleeding
  - Rare in the absence of bleeding
  - Risk Factor = Increased estrogen
  - Protective = smoking, OCP's

ACOG guideline

…based on age alone, endometrial assessment to exclude cancer is indicated in any woman older than 35 years who is suspected of having anovulatory uterine bleeding.
Normal Perimenopause

• 12% suddenly stop menstruating
• 18% have longer, heavier menses
• 70% have short, irregular menses

Should we therefore perform EMB on all but 12% of women?

Evaluation: EMB

• EMB in premenopausal women age >35 years:
  – YES. If heavy, irregular bleeding
  – YES. If risk factors for ca (G0, obesity, fam hx),
  – NO. If perimenopausal and infrequent/scant bleeding.
  – NO. If regular bleeding pattern.

Case 3

A 25 yo G0 with 8 months irregular, heavy, frequent bleeding. BMI 33.

Exam: Coarse dark hair upper lip, chin uterine/adnexa not palpable

Evaluation: premenopausal women

Four steps:
1) Is it uterine? YES.
2) Is she pregnant?
   Upreg neg.
3) Name the bleeding.
   Heavy, frequent, irregular= menometrorragia
3) Is it ovulatory? NO.
Anovulatory AUB: Differential Diagnosis

- Estrogenic
  - Physiologic
  - Hyperandrogenic
    - Progesterin (DMPA)
  - Hyperprolactinemia
    - Stress, anorexia
- Hypoestrogenic
  - Hypothyroidism
  - Hypothyroidism
- Iatrogenic
  - Estrogen (OCPS)
  - Progestin (DMPA)
- Systemic disease/Medication
  - Renal or Liver disease
  - Corticosteroids

Miscellaneous

- Ovulatory, but irregular bleeding
  - Infection
    - Consider in at-risk women, usually metrorrhagia
  - Cervical dysplasia/ca
    - Check Pap up to date
  - Endometrial cancer/hyperplasia

Anovulatory AUB: work-up

- History and examination (androgen excess, galactorrhea, obesity)
- CBC, TSH, +/- androgens, +/-21-OHP
- Prolactin (for oligomenorrhea)
- Consider EMB
- +/- Pelvic ultrasound: anovulation is not due to anatomic lesion
Case 3

A 25 yo G0 with 8 months irregular, heavy, frequent bleeding. BMI 33.

Exam: Coarse dark hair upper lip, chin
uterus/adnexa not palpable

Hct 32, TSH wnl
Diagnosis: PCOS.

Evaluation Summary

- Is she ovulating?
  - If regular bleeding pattern, probably YES
  - If YES: consider anatomic abnormality, check u/s
  - If NO: may be PCOS, thyroid, prolactin, hypothalamic, consider EMB

Tx: Ovulatory Bleeding

Medical
- NSAIDs
- Oral E+P (COC)
- E+P patch/ring
- Oral Progestin
- Progestin IUD (Mirena)
- IM Progestin (DMPA)
- Subdermal progestin (Implanon)
- GnRH agonist (Lupron)

Surgical
- Endometrial ablation
- Endometrial resection
- Myomectomy
- Hysterectomy
- UAE for fibroids

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**Tx: NSAIDs**

- Decreased blood flow from 22 to 46%
- Initiate on 1st day of cycle, tx x 5 days ATC
- Many dosages and types effective
- Use alone or with other therapies
- No evidence that one is superior
  - Fenamates most extensively studied and more effective in some studies:
    - eg mefenamic acid

DON’T FORGET NSAIDs!

**Tx: GnRH Agonist**

- **GnRH Agonist (Lupron):**
  - Expensive
  - Poorly tolerated (menopausal side effects)
  - Limit to 6 months
  - Limited role for long-term management of AUB

**Endometrial Ablation Techniques**

- **First Generation**
  - Laser ablation
  - Rollerball ablation
  - Endometrial resection
- **Second Generation**
  - Hot water balloon - Thermachoice™, Cavaterm®
  - Cryoablation – Her Option™
  - Circulating hot water – Hydro ThermAblator™
  - Radiofrequency ablation - Novasure™
  - Microwave - Microsulis™

**Conclusion**

***Four steps to differential diagnosis:***
1) Is it uterine?
2) Is she pregnant?
3) Name the bleeding.
4) Is it ovulatory?

***Medical management compares well with surgical treatment for anovulatory bleeding.***