EVALUATION OF ABNORMAL UTERINE BLEEDING: NON-STRUCTURAL ETIOLOGIES

Week 48

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With SDH and .phrase slides by Chloé Altchek, MS4

Reading Assignment:
ACOG, Practice Bulletin No. 128, “Diagnosis of abnormal uterine bleeding in reproductive-aged women.”
LEARNING OBJECTIVES

• Understand the definition of a normal menstrual cycle and abnormal uterine bleeding
• Become familiar with the PALM-COEIN classification system for AUB
• Learn how to evaluate patients for non-structural causes of AUB, including appropriate lab testing
Patient is a 46 yo G5 P1041 woman who presents for a new GYN visit. She reports irregular cycles for the past 10 years. Her last visit to a gynecologist was 15 years ago after the delivery of her son.

Her periods come at variable intervals, sometimes every three months, other times twice in a month. Flow varies from minimal spotting to heavy bleeding requiring pad changes every hour. She reports dysmenorrhea with her periods that is relieved with ibuprofen.

She reports a 30 pound weight gain over the past 10 years. Otherwise, she denies any new medical issues.
FOCUSED HISTORY

What will be pertinent in her history?

- **POB:** 4x surgical VTOPs, 1x C/S at term for arrest of descent
- **PGYN:** Menarche at 13 yo; history of monthly cycles lasting 5 days until recently; denies history of STIs/abnormal paps/ fibroids/ cysts; last pap smear 15 years ago; not using contraception; sexually active
- **PMH:** Denies
- **PSH:** 4 x D&C, 1x C/S, 1x lapx cholecystectomy
- **FH:** Mother s/p hyst for fibroids, sister with fibroids
- **SH:** No toxic habits; unemployed; long-term partner; accepts blood products
- **Meds:** None
- **All:** NKDA
What will be pertinent in her physical exam?

**VS:** P 99  BP 155/80  **Wgt:** 103kg  **Hgt:** 166cm  **BMI:** 37.4 kg/m\(^2\)

- **General:** NAD, well-appearing
- **Chest:** CTAB
- **CVS:** RRR
- **Abd:** Obese, soft, NT/ND, no masses/HSM
- **GU:** NEFG, no lesions; normal vaginal mucosa; no CMT; no uterine/adnexal tenderness; uterus 8 week size; no adnexal masses
- **Ext:** WWP, 1+ edema b/l
NORMAL MENSTRUAL CYCLE

How do you characterize a normal menstrual cycle?

• Every 21-35 days
• Variation between cycles usually 7-9 days
• Lasts on average for 5 days, between 2-7 days
• Volume up to 80 mL
Abnormal uterine bleeding accounts for 70% of all gynecologic consults.

**What is the definition of AUB?**

- Menstrual flow outside of normal volume, duration, regularity, or frequency

**How do we classify AUB?**

- PALM-COEIN system
PALM-COEIN CLASSIFICATION SYSTEM FOR AUB

- Abnormal Uterine Bleeding (AUB)
  - Heavy menstrual bleeding (AUB/HMB)
  - Intermenstrual bleeding (AUB/IMB)

- PALM: Structural Causes
  - Polyp (AUB-P)
  - Adenomyosis (AUB-A)
  - Leiomyoma (AUB-L)
    - Submucosal myoma (AUB-L_{SM})
    - Other myoma (AUB-L_{O})
  - Malignancy & hyperplasia (AUB-M)

- COEIN: Nonstructural Causes
  - Coagulopathy (AUB-C)
  - Ovulatory dysfunction (AUB-O)
  - Endometrial (AUB-E)
  - Iatrogenic (AUB-I)
  - Not yet classified (AUB-N)
# DIFFERENTIAL: AGE BASED

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Common Differential Diagnosis</th>
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<tbody>
<tr>
<td>13-18 yo</td>
<td>- AUB-O (immature HPO axis)</td>
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<td>- Hormonal BC use</td>
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<td>- Pregnancy</td>
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<td>- Pelvic infection</td>
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<td>- Coagulopathy (seen in 19% of those hospitalized)</td>
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<td>- Tumors</td>
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<td>19-39 yo</td>
<td>- Pregnancy</td>
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<td>- Structural lesions</td>
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<tr>
<td></td>
<td>- AUB-O (PCOS)</td>
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<td>- Use of hormonal BC</td>
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<td>- Endometrial hyperplasia</td>
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<td>- Endometrial CA</td>
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<td>40 yo-Menopause</td>
<td>- AUB-O (normal physiology, declining ovarian function)</td>
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<td>- Endometrial hyperplasia</td>
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<td>- Endometrial CA</td>
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<td>- Endometrial atrophy</td>
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<td>- Structural lesions</td>
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EVALUATION: HISTORY AND PHYSICAL

History
- Detailed menstrual history
  - Age of menarche/menopause
  - Bleeding patterns
  - Severity of bleeding
  - Pain
- Sexual history
  - Pregnancy, STI, trauma/IPV
- Medical conditions
- Surgical history
- Medications
- Family history
- Social History
  - Exercise/diet, toxic habits

Thyroid disorders
PCOS
Chronic kidney disease
Celiac disease
Bleeding diatheses
Hepatic disease
Malignancy

Anticoagulants
NSAIDs
Hormonal contraception/HRT
Gingko, Ginseng, Motherwort
SERMs
Antipsychotics
What information in your patient’s history would make you concerned about a bleeding disorder?

- Heavy menstrual bleeding since menarche
- One of the following:
  - PPH
  - Surgery related bleeding
  - Bleeding associated with dental work
- Two/more symptoms:
  - Bruising 1-2x/mo
  - Epistaxis 1-2x/mo
  - Frequent gum bleeding
  - FHx of bleeding symptoms
EVALUATION: HISTORY AND PHYSICAL

General exam

- Obesity, signs of hyperandrogenism (acne, hirsutism), signs of thyroid disease (thyromegaly/nodule, exophthalmos), signs of insulin resistance (acanthosis nigricans), galactorrhea/discharge
- Signs of a bleeding disorder: petechiae, ecchymoses, skin pallor, swollen joints

Gyn/pelvic exam

- Cervical/vaginal lesions
- Uterine/adnexal abnormalities, masses
EVALUATION: TESTING

• Pregnancy test
• CBC
• TSH (Prolactin)
• GC/CT (especially in high-risk population)
  • Other tests: at risk of bleeding disorders
    • CBC with platelets, INR/PT, PTT
    • von Willebrand-ristocetin cofactor activity, von Willebrand factor antigen, factor VIII
  • Other tests: at risk of endocrinologic dysfunction
    • Prolactin, serum androgens, FSH/LH (POF), estradiol
• Other tests:
  • Pap smear
EVALUATION: TESTING

When is an endometrial biopsy used as the first-line test?
• Women 45+ yo with AUB

When is an EMB appropriate in women < 45 yo?
• Women with a history of unopposed estrogen exposure (i.e. PCOS, obesity), failed medical management of AUB, persistent AUB

If an EMB is negative, but patient has persistent bleeding, what other tests can you perform?
• D&C, hysteroscopy, further sampling
• If a cancer occupies < 50% of endometrial cavity surface area, it may be missed on EMB
EVALUATION: OTHER TESTS

When is imaging recommended?

- Abnormal physical exam
- Symptoms refractory to treatment
- Persistent symptoms with a normal exam

What imaging modalities can be used?

- Transvaginal ultrasound (transabdominal for adolescents)
- Sonohysterography (superior for intracavitary lesions)
- Hysteroscopy
- MRI (select cases, i.e. myomatous uteri for surgical planning)
Uterine evaluation

Enhanced risk of hyperplasia or neoplasia or both

- Yes: Office endometrial biopsy
  - Adequate specimen? No: AUB-E or O (presumptive)
    - Yes: Asymptomatic hyperplasia or CA?
      - Yes: Management of AUB-M
      - No: AUB-L, AUB-P, AUB-A

- No: Enhanced risk of a structural abnormality
  - Yes: TVUS
    - Normal cavity? No: SIS
      - Target lesion? No: Can't assess
      - Yes: Consider MRI
CASE VIGNETTE

What is your differential for the patient?

How would you work up the patient presented?
SOCIAL DETERMINANTS OF HEALTH

• AUB has significant psychosocial implications:
  - Work loss 2/2 to AUB estimated to cost $1692/yr per woman
  - Anxiety
  - Depression
  - Insomnia
  - Excessive sleepiness
  - Pain
  - Inability to contain blood flow
  - Anxiety regarding embarrassment
  - Unpredictability of changing plans (social, family, work) to avoid embarrassing bleeding

• Reasons many women delay seeking treatment:
  - Uncertainty if uterine bleeding is abnormal
  - Lower prioritization of gynecologic health
  - Difficulty accessing services (delay in appointments with gynecologists)

Taking the time to take a detailed menstrual history will help identify a woman who if unprompted, may not disclose symptoms related to their menstrual cycle that represent an underlying health problem.
Description: AUB workup
We discussed the diagnosis of abnormal uterine bleeding and the most common etiologies for her age group, including AUB-O, hormonal contraceptive use, pregnancy, pelvic infection, coagulopathy, or pelvic tumor for ages 13-18, pregnancy, structural lesions, PCOS, or endometrial hyperplasia for ages 19-39, pregnancy, AUB-O, endometrial hyperplasia, cancer, endometrial atrophy, or structural lesions for ages over 40. A thorough evaluation was started today, including:

***age 13-18
Pregnancy test, CBC, INR, PTT, TSH, Prolactin, consider von Willebrand-ristocetin cofactor activity, von Willebrand factor antigen, factor VIII, GCCT (if sexually active)

***age 18-menopause
Pregnancy test, CBC, TSH, Prolactin, GCCT, pelvic ultrasound (consider SIS if concerned for structural abnormality), EMBx (if over 45, or <45 with hx unopposed estrogen, failed medical management, or persistent AUB), Pap (if over 21)
CODING AND BILLING

• ICD-10

• N93.9, Abnormal uterine and vaginal bleeding, unspecified
EVIDENCE

• References


