ABNORMAL UTERINE BLEEDING

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CLEVELAND ACADEMY OF OSTEOPATHIC MEDICINE
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NO FINANCIAL INTERESTS IN ANY COMPANIES/PRODUCTS SOME OFF LABEL USE OF MEDICATIONS
WHAT IS ABNORMAL UTERINE BLEEDING?

FIGO MDG (International Federation of Gynecology and Obstetrics Menstrual Disorders Group) introduced new definitions and classifications of abnormal uterine bleeding in 2011. This is intended to replace confusing and nonspecific terms including menorrhagia, menometrorrhagia, metrorrhagia, dysfunctional uterine bleeding, polymenorrhea, oligomenorrhea and uterine hemorrhage.
WHAT IS ABNORMAL UTERINE BLEEDING?

30% of women will have some abnormal uterine bleeding during their reproductive years.
To understand abnormal, we need to know what is normal
THE MENSTRUAL CYCLE.
WHAT IS ABNORMAL UTERINE BLEEDING?

Menstrual cycles are determined to be normal or abnormal based on their length, regularity, duration and volume.
NORMAL MENSTRUAL CYCLES

Length
- 24 to 38 days

Regularity
- Should be the same cycle length within 9 days

Duration
- Should last 8 or less days

Volume
- Should be a normal volume
- 80 ml blood loss
THE OVARIAN CYCLE.
WHAT IS ABNORMAL UTERINE BLEEDING?

Cycle length abnormalities

- Frequent menstrual cycles are less than 24 days
- Infrequent are more than 38 days
  - A term previously known as oligomenorrhea
- Secondary amenorrhea
  - No menses for 3 months if previously regular periods
  - No menses for 6 months if previously irregular periods
- Primary amenorrhea
  - No periods by age 15
WHAT IS ABNORMAL UTERINE BLEEDING?

Duration abnormalities
▪ Prolonged bleeding is more than 8 days of menses

Regularity abnormalities
▪ Irregular periods if greater than 7 to 9 days variation (some say +/- 4 days)

Volume abnormalities
▪ Heavy flow is subjective to the patient who states that their period interferes with their life
WHAT IS ABNORMAL UTERINE BLEEDING?

Intermenstrual bleeding (bleeding between periods) IMB
- Random
- Cyclic
  - Early cycle
  - Midcycle
  - Late cycle

Unscheduled bleeding on hormone medication (breakthrough bleeding)
WHAT IS ABNORMAL UTERINE BLEEDING?

**Acute AUB**
- Uterine bleeding that requires immediate intervention to prevent further blood loss

**Chronic AUB**
- Abnormal frequency, regularity, duration or volume of menses that has been present for the majority of the past 6 months or longer
OVARIAN ACTIVITY
<table>
<thead>
<tr>
<th>PALM-COEIN</th>
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<tbody>
<tr>
<td>P = polyp</td>
</tr>
<tr>
<td>A = adenomyosis</td>
</tr>
<tr>
<td>L = leiomyoma</td>
</tr>
<tr>
<td>M = malignancy and hyperplasia</td>
</tr>
<tr>
<td>C = coagulopathy</td>
</tr>
<tr>
<td>O = ovulatory dysfunction</td>
</tr>
<tr>
<td>E = endometrial</td>
</tr>
<tr>
<td>I = iatrogenic</td>
</tr>
<tr>
<td>N = not otherwise classified</td>
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</tbody>
</table>
PALM

Anatomical causes of bleeding
- Polyps
- Adenomyosis
- Leiomyoma
- Malignancy
ENDOMETRIAL POLYPS

P- PolyP

ENDOCERVICAL POLYPS
# Endometrial Polyps

## Diagnosis
- Visualization on exam
- Ultrasound
- Hysteroscopy

## Treatment
**Removal**
- Polypectomy
- Dilation and Curettage (D&C)
- Myosure or similar hysteroscopic surgery
# Adenomyosis

## Diagnosis

- No way to make the diagnosis without pathology
- High index of suspicion
- Exam
- US/ MRI

## Treatment

- Hysterectomy
- Other options to preserve uterus
  - Levonorgestrel IUD
  - Birth control pills
  - Progesterone
  - Leuprolide or GnRH agonist
  - Endometrial ablation
  - Uterine Artery Embolization (UAE)
LEIOMYOMA

L = LEIOMYOMA

FIBROID
## LEIOMYOMA

### Diagnosis
- Exam
- US/MRI

### Treatment

#### Hormonal therapy
- Contraceptives
- IUD
- Progesterone
- GnRH agonists

#### Surgery
- UAE
- Myomectomy
- Endometrial ablation
- Hysterectomy
MALIGNANCY

M = MALIGNANCY
ENDOMETRIAL CARCINOMA
CERVICAL CARCINOMA
VULVAR/VAGINAL CARCINOMA
ATYPICAL ENDOMETRIAL HYPERPLASIA
UTERINE CANCER

Exogenous estrogen/ estrogen agonists
  unopposed estrogen
  hormone therapy
  tamoxifen
Endogenous estrogen
  obesity
  chronic anovulation
  estrogen secreting tumors
Family history
  BRCA
  Lynch syndrome
Infertility
Hypertension and Diabetes
ENDOMETRIAL CARCINOMA AND ATYPICAL ENDOMETRIAL HYPERPLASIA

**DIAGNOSIS**

- Exam
- US
- Endometrial biopsy
  - In office
  - Dilation and Curettage

**TREATMENT**

- Hysterectomy
- Progestin therapy
# Cervical Carcinoma

## Diagnosis
- Exam
- Pap smear with HPV testing
- Colposcopy with biopsy
- Biopsy

## Treatment
- Hysterectomy
- Radiation
- Chemotherapy
PALM-COEIN

P=polyp
A=adenomyosis
L=leiomyoma
M=malignancy and hyperplasia

C=coagulopathy
O=ovulatory dysfunction
E=endometrial
I=iatrogenic
N=not otherwise classified
COEIN

Non anatomical causes

- Coagulopathy
- Ovulatory Dysfunction
- Endometrial
- Iatrogenic
- Not Otherwise Classified
COAGULOPATHY
**COAGULOPATHY**

**DIAGNOSIS**
- Labs
  - CBC
  - PT/PTT

**FURTHER INFORMATION**
- 15-24% of patients with HMB (heavy menstrual bleeding) have a bleeding disorder
  - Most common is von Willebrand disease
  - Thrombocytopenia
  - Platelet function defect

- Especially need to consider if heavy prolonged bleeding begins with menarche

- Family history is important
- Don’t forget to check medication list
- History of other bleeding—nose bleeds, easy bruising
OVARIAN (OVULATORY DYSFUNCTION)

DIAGNOSIS AND TREATMENT
- Lab
- Correct underlying problem
- Cycling with progestin

MORE INFORMATION
- Often no identifiable cause
- Perimenopausal
- Can be related to stress, weight loss/gain, excessive exercise
- Factors effecting HPO axis
  - PCOS
  - Thyroid
  - Prolactin
HPO
Hypothalamus Pituitary Ovary Axis
ENDOMETRIAL

**DIAGNOSIS OF EXCLUSION**
No testing available

**TREATMENT**
- Hormone therapy
- IUD
- Endometrial ablation
- Hysterectomy
IATROGENIC
<table>
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<tbody>
<tr>
<td><strong>MEDICAL DEVICES OR MEDICATIONS</strong></td>
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<tr>
<td>IUD</td>
</tr>
<tr>
<td>Hormones</td>
</tr>
<tr>
<td>Hormone related therapy</td>
</tr>
<tr>
<td>▪ GnRH</td>
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<tr>
<td>▪ Aromatase inhibitor</td>
</tr>
<tr>
<td>▪ SERM</td>
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<tr>
<td>Anticoagulant</td>
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<tr>
<td>Medications that interfere with ovulation</td>
</tr>
<tr>
<td>▪ Antipsychotics</td>
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<tr>
<td>▪ antidepressants</td>
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<tr>
<td><strong>TREATMENT</strong></td>
</tr>
<tr>
<td>Remove the IUD</td>
</tr>
<tr>
<td>Change medications</td>
</tr>
<tr>
<td>Adjust therapy</td>
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NOT OTHERWISE CLASSIFIED

Infection
  Endometritis
  Pelvic Inflammatory Disease
Gestational Trophoblastic Disease (Molar Pregnancy)
EVALUATION
EVALUATION OF ABNORMAL UTERINE BLEEDING

1. Is the bleeding from the uterus?
2. Is the bleeding postmenopausal?
3. Is the patient pregnant?
EVALUATION OF ABNORMAL UTERINE BLEEDING

1. Take a history including
   1. Menstrual history
   2. Symptoms related to bleeding
   3. Medical, surgical and gynecological history
   4. Medications
   5. Risk factors for endometrial carcinoma
   6. Family history of bleeding disorders

2. Physical exam
   1. Vital signs
   2. Speculum and bimanual exam

3. Labs
   1. HCG
   2. Hgb/Hct
FURTHER EVALUATION

1. Pelvic Ultrasound
2. Additional labs
3. Endometrial biopsy
4. Cervical evaluation
SECONDARY AMENORRHEA
SECONDARY AMENORRHEA: ETIOLOGIES

**Endocrine**
- Hypothyroid
- Cushing's disease
- Adrenal tumor
- Ovarian testosterone producing tumor

**Hypothalamic-Pituitary**
- Hypothalamic dysfunction
- Low body fat
- Eating disorder
- Pituitary tumor
- Sheehan’s syndrome

**Ovarian**
- PCOS
- Premature ovarian failure
- Oophorectomy

**Uterine**
- Asherman’s syndrome
- Hysterectomy
CAUSES OF SECONDARY AMENORRHEA

Pregnancy
  ▪ #1 cause

Ovarian
  ▪ 40%
    ▪ 30% PCOS
    ▪ 10% POI

Hypothalamic
  ▪ 35%
    ▪ Functional hypothalamic amenorrhea

Pituitary
  ▪ 17%
    ▪ 13% hyperprolactinemia
    ▪ 1.5% empty sella
    ▪ 1.5% Sheehan’s syndrome
    ▪ 1% Cushing’s disease

Uterus
  ▪ 7%
    ▪ Asherman’s syndrome

Other
  ▪ ~1%
    ▪ Ovarian tumors, adrenal tumors, hypothyroidism,
FUNCTIONAL HYPOTHALAMIC AMENORRHEA

Female athlete triad
- Amenorrhea
- Eating disorder
- Bone loss
- Ballet, gymnastics, running especially

Weight loss
Stress
Low BMI

Excessive exercise
Nutritional disorders
- Celiac disease
Severe illness
CYNTHIA’S QUICK AND EASY SECONDARY AMENORRHEA WORK UP

Pregnancy test negative
Exam normal? Obese? Thin?
History—birth control? Meds?
Labs: TSH, testosterone, prolactin
TSH abnormal—treat
Testosterone elevated—PCOS
  ▪ If testosterone >150 do US ovaries
  ▪ Treat PCOS with birth control pill

All normal? Progesterone withdrawal.
  ▪ Bled—great—now what?
  ▪ No bleeding? Now what?

Premature ovarian failure
  ▪ FSH, estradiol level

Functional hypothalamic amenorrhea (GnRH deficiency)
ACUTE ABNORMAL UTERINE BLEEDING

Patient with prolonged or heavy bleeding that needs to be stopped due to anemia and/or life impact.

Treatment options (ACOG Committee Opinion 557):

- conjugated equine estrogen 25mg IV every 4-6 hours for 24 hours
- combined oral contraceptives 35mcg monophasic pill tid X7 days
- medroxyprogesterone acetate 20mg tid X7 days
- tranexamic acid 1.3 g orally tid for 5 days
ACUTE ABNORMAL UTERINE BLEEDING

Cynthia’s protocol

Norethindrone acetate 5mg every 4 hours until bleeding stops and then for 24 hours and then taper down. Rx for #40 and taper by doing every 6 hours for 3 days and then every 8 hours for 3 days and then every 12 hours for 3 days and then daily until medication is gone. If they have breakthrough bleeding increase to the previous dose. Don’t start taper until no bleeding for 24 hours.

Will usually have a period after finishing taper because now you have done progesterone withdrawl.
What are some patients that you have had concerns with evaluation?