Clinical Approach to Abnormal Uterine Bleeding

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Disclosures

- NONE
The scope of the problem

- Why Reproductive age women - most of the patients you see for AUB will fall in this category
- 1/3 of all out patient gyn visits are for complaints of AUB, 2/3 of peri-menopausal & menopausal referrals to gynecologist are for AUB
- Causes- in decreasing order hormonal, anatomic, bleeding discrasias and infection
- Will not discuss the pre menarche or menopausal pt
- Extremes of reproductive age cause irregularity, young immature HPO axis, older- poor ovarian response
Good bye DUB

- ACOG supports the discontinuation of the term DUB. Historical DUB would refer to ovulation dysfunction (no definable structural cause)
- AUB- is defined as bleeding that is abnormal in duration, volume, regularity, or interval
- Norms: Duration 4-6 days(<2 or >7), Volume 30-60mL (>80 mL) very subjective, Interval 21 -35 days
The Menstrual Cycle

- **Ovarian cycle**
  - Growing follicle
  - Ovulation
  - Corpus luteum
  - Corpus albicans

- **Body temp.**
  - 37°C
  - 36°C

- **Anterior pituitary hormones**
  - Luteinizing hormone (LH)
  - Follicle-stimulating hormone (FSH)

- **Ovarian hormones**
  - Estradiol
  - Progesterone

- **Uterine cycle**
  - Menses

- **Phases**
  - Follicular phase
  - Luteal phase
  - Menses

- **Timeline**
  - 0 days
  - 14 days (Ovulation)
  - 28 days
History and Physical

- Menstrual HX- age of menarche, length of cycle, how often, amount of flow. What is her normal and what is the change
- Unsure of ovulation- menstrual calendar (apps), BBT
- Pelvic exam- Is it truly uterine
- Bimanual exam
Testing

- PREGNANCY
- CBC
- TSH/Prolactin
- PAP/Cultures
- Could consider Bleed panel, LFT
New Terminology

- **Chronic** - Bleeding from uterine corpus in volume, regularity and/or timing and has been present for the majority of the past six months.
- **Acute** - Heavy bleeding that in the opinion of the clinician requires immediate intervention, can occur in the context of chronic AUB.
- **IMB** - Bleeding in-between clearly defined cycles - replaces metorrhgia.
- **HMB** - replaces menorrhgia.
MEDICAL DEFINITIONS:
TAMPOONADE

Comression of the heart that occurs when fluid builds up between myocardium and pericardium.

What you make when life gives you tampons.
Why PALM- COEIN

- FIGO 2011, ACOG November 2012
- Simplify and standardize the nomenclature
- Easy to apply in clinical situation by using etiology and bleeding pattern.
- PALM- structural, seen on Imaging or Histopathology
- COEIN- non structural, not seen
PALM- the structural causes

- Polyp
- Addenomyosis
- Lyeomyoma
- Malignancy/hyperplasia
Polyp

- HX-Normal cycle with intermenstrual bleeding
- Overgrowth of endometrial tissue, becomes inflamed and hyper vascular
- Mostly benign
- Sono, Saline infusion sono-hysterogram, Hysteroscopy (gold standard)
- TX- removal- operative hysteroscopy with pathological evaluation
Adenomyosis

- Endometrial glands within the Myometrium (endometriosis of the myometrium)
- Hx - heavy painful periods, pressure symptoms
- DX - Sono (subtle, need standardization), MRI
- PE - enlarged heavy uterus
- TX - Progesterone (Halt the growth of glands) vs Surgery
Leiomyoma

- Benign (99.9%) estrogen sensitive tumors of smooth muscle
- HX - pelvic pain, pressure symptoms, heavy periods specifically sub-mucoasal or intercavitory fibroids.
- DX - Pelvic exam, sono, MRI (difficult cases)
- TX - OCP’s (atrophy of endometrium), Lupron, Uterine artery embolization, myomectomy, operative hysteroscopy, ablation, hysterectomy.
- Reoccurrence common
Malignancy/Hyperplasia

- Increase in days of flow, increase in flow, intermenstrual spotting, and hx of anovulation
- Risk fx- anovulation, PCOS, Obesity
- DX- BX of endometrial lining no clear guidelines 35 y/o and risk fx or 45y/o or older.
- TX- Progesterone continuous not cyclic 3-6 months, IUD High cure rate equal to 6 months of provera
- Hysterectomy- Atypia surgery preferred, consider GYN ONC if complex Hyperplasia with Atypia due to 30% chance of occult adenocarcinoma
COEIN-Physiologic causes

- Coagulopathy
- Ovulation disorders
- Endometrium
- Iatrogenic
- Not classified
Coagulopathy

- MC von Willebrands (19% of adolescents that are hospitalized for AUB), 13% of pt with AUB-HMB will have an underlying biochemical detectable systemic disorder of hemostasis
- HX is your screening tool, 90% dx by hx. 1 of the following bleeding after WTE, Surgery, or PPH. 2 of the following bruising, nosebleeds, gum bleeds, family hx.
- Anticoagulation- usually not seen at therapeutic doses- per FIGO is classified as AUB-HMB-C
- DX- referral to Hematology
- TX- Continuous OCP’s, IUD, VWD- DDAVP vs. TXA
Ovulation dysfunction
Ovulation dysfunction

- HX- Irregular cycles, amenorrhea
- Pregnancy
- Lactation
- Thyroid/Prolactin
- Cushing's- Moon fancies, Buffalo hump, HTN, DM

- Non-classical CAH- test 17 hydroxyprogesterone in ethnic populations (Hispanic, Slavic, Mediterranean, Ashkenazi Jewish) with hx of hirsutism since prior or at start of menarche, may require ACTH stimulation testing
Ovulation dysfunction

- TSH/Prolactin- easy to test for, easy to treat, TX often meet with the return of menses
- Prolactin- slight increase- short letual phase more frequent cycle, high levels- anovulation, very high- amenorrhea
- Breast exam Express milk, glactorhea,
- Evaluation for prolactinoma-MRI
- TX- bromocriptine
PCOS MC ovulation dysfunction

- Rotterdam criteria- 2/3 Irregular cycles or amenorrhea, androgen excess, PCOS ovaries on sono
- Clinical dx- Testosterone only if new onset hirsutism, LH/FSH testing not performed anymore.
- Essentially flat on all hormones. Estrogen normal to high, FSH/LH almost none existent, Progesterone low, Testosterone normal to high
PCOS

- Needs GTT or HgA1C, Lipids
- EmBX of long-term amenorrhea
- TX- OCP’s for Menses and Hirsutism, Cyclic progesterone for Menses, Spironolactone for hirsutism
- Tx of hirsutism- at least 6 months can only stop growth of new follicle does not tx existing follicle
- Infertility- Clomid, Referral
- Weight loss- 2-5% weight reduction will affect fertility and metabolic syndrome (D&E)
Endometrium

- HX- Normal cycles with HMB
- Possible local cause- vasoconstrictors, (prostaglandins, endothelin-1) no available testing
- Endometritis- think post partum SAB or TAB
- Young pt with high risk sexual behavior think endometritis/PID
- DX- cervical, vaginal cx, CBC with Diff, Bi-manual exam with tenderness
- TX- Antibiotics
Iatrogenic

- MC- Gonadal steroids aka BTB, Non compliance stimulate follicle
- Tricyclic antidepressants- affect serotonin/dopamine which has affect on hypothalamus/pituitary and ultimately ovary
- Herbal- Ginko/Gensing/Mothers wart- affects the brain and HPO axis.
- TX-Compliance vs discontinuation of med
- Anticoagulation Therapy- Per FIGO is classified AUB-C
Not otherwise specified

- Several entities that are poorly defined, inadequately examined or both as a cause of AUB
- Chronic endometritis, Arteriovenous malformations, myometrial hypertrophy
- Leaves room for disorders not yet identified that could possibly defined by biochemical or molecular biology assays.
Fig. 2. Uterine evaluation. The uterine evaluation is, in part, guided by the medical history and other elements of the clinical situation, such as patient age, presence of an apparent chronic endometrial disorder, or presence of other risk factors for endometrial hyperplasia or malignancy. For those at increased risk, endometrial biopsy is probably warranted. If there is a risk of structural abnormality, particularly if previous medical therapy has been unsuccessful, evaluation of the uterus should include imaging, at least with a screening transvaginal ultrasonography. Unless the ultrasonand image indicates a normal endometrial cavity, it will be necessary to use either or both hysteroscopy and sonohysterography to determine whether target lesions are present. Such an approach is also desirable if endometrial sampling has not provided an adequate specimen. Importantly, these measures are inconclusive or, in the instance of original gyn and women, not feasible outside of an unobstructed environment. In these instances, magnetic resonance imaging may be of value, if available. Abbreviations: AUB, abnormal uterine bleeding; AUB-E, endometrial; AUB-P, polypoid; AUB-A, atypical hyperplasia; AUB-B, benign endometrial hyperplasia, AUB-C, endometrial carcinoma; AUB-E, endometriosis; CA, carcinoma; MRI, magnetic resonance imaging; US, sonohysterography; TVUS, transvaginal ultrasonography. Reprinted from Munro MC. Abnormal Uterine Bleeding. Cambridge University Press: 2010.
In Summary

- **PALM- Structural**- bleeding pattern of regular cycles with intermenstrual spotting or heavy flow.
- **Coagulaopathy**- heavy or prolonged flow
- **Ovulatory dysfunction**- irregularity, amenorrhea.
Treatment

- NSAIDS - pain and bleeding
- OCP’s
- Progesteron/IUD’s
- Surgery - D&C, ablation, operative hysteroscopy, hysterectomy
Acute Bleeding TX

- High dose conjugated equine estrogen
  25mg IV q 4-6 hrs x 24 hrs

- Monophasic combined OCP with 35 mcg ethinyl estradiol TID x 7 days

- Medroxyprogesterone 20 mg TID x 7 days

- Tranexamic acid (procoagulant) 1.3g po TID or 10 mg/kg IV x 5 days

- Surgery-D&C, UAE, Hysterectomy
References

- Green Journal July 2012 Practice Bulletin Number 128
- Comprehensive Gynecology 5th edition
- Green Journal Committee opinion 557, April 2013