Management of Acute Abnormal Uterine Bleeding in Nonpregnant Reproductive-Aged Women

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Presented by: Amirhessam Zare
Faculty Advisor: Dr. Sophia Esalatmanesh
Journal Club – Dept. of OB/GYN

American College of Obstetricians & Gynecologists

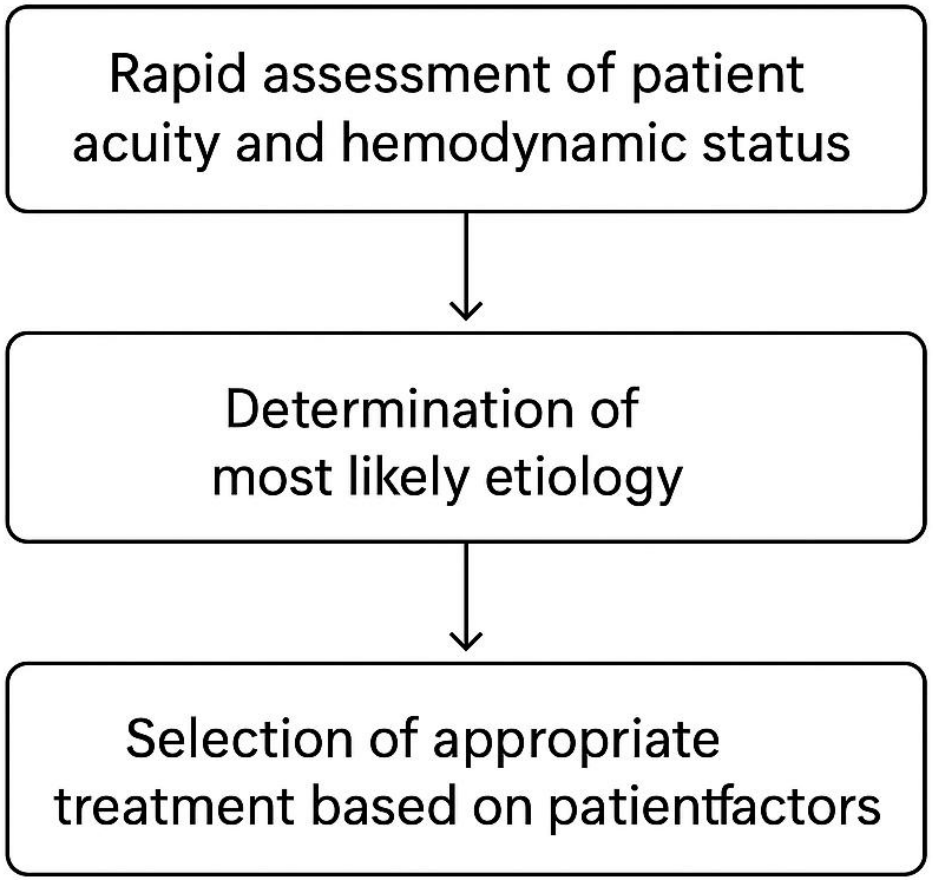
مرکز آموزشی درمانی ضیائیان

دانشگاه علوم پزشکی تهران

Background & Clinical Significance

- **Abnormal Uterine Bleeding (AUB):** Bleeding from the uterine corpus abnormal in regularity, volume, frequency, or duration, occurring in the absence of pregnancy
- **Acute AUB:** Episode of heavy bleeding requiring immediate intervention to prevent further blood loss per clinician judgment
- May occur de novo or superimposed on chronic AUB (bleeding pattern abnormal for ≥6 months)

Clinical Approach - Three Stages:



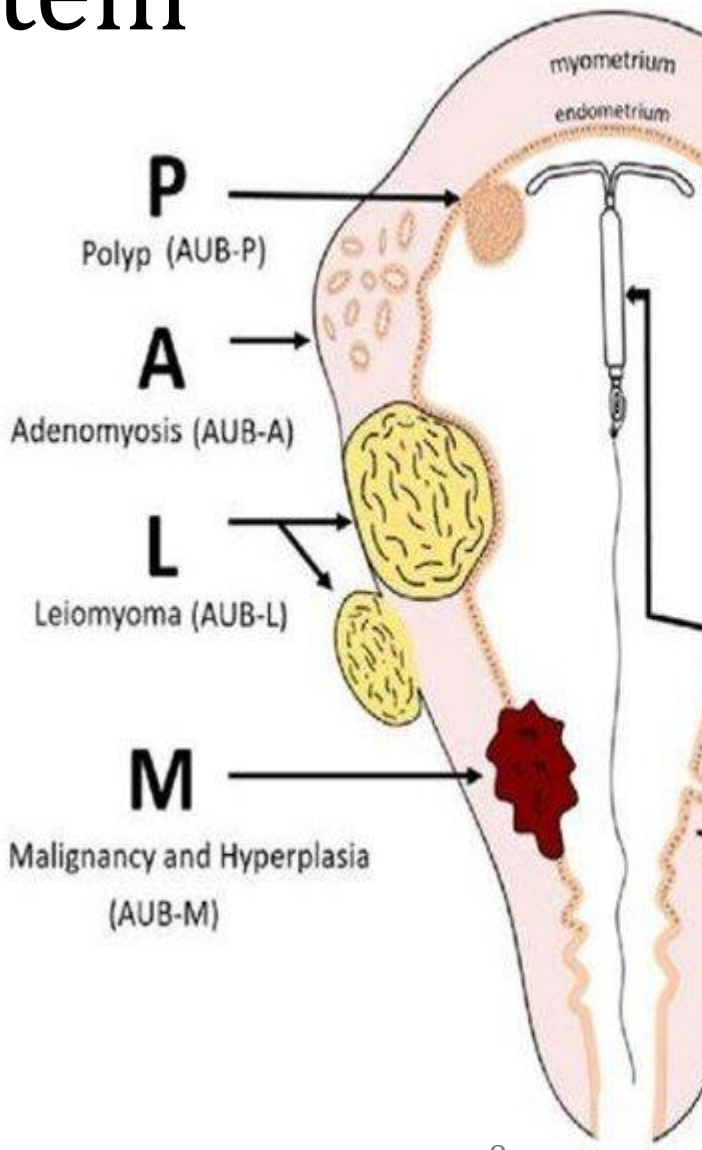
Initial Assessment & Resuscitation

- **Priority: Hemodynamic Assessment**
  Evaluate for hypovolemia and hemodynamic instability
  Vital signs: tachycardia, hypotension, orthostatic changes
  Clinical signs: altered mental status, oliguria, diaphoresis
- **Immediate Interventions for Unstable Patients:**
  Large-bore IV (14–18G, 1–2 lines)
  Crystalloids, type & crossmatch for PRBCs
  Prepare for massive transfusion ± clotting factors (FFP, cryo)
- **Concurrent Actions:**
  Focused history during resuscitation
  Pelvic examination to confirm uterine source and assess volume

PALM-COEIN Classification System

Structural Etiologies (PALM):

Polyp (AUB-P)
Adenomyosis (AUB-A)
Leiomyoma (AUB-L)
    Submucosal (AUB-LSM)
    Other locations (AUB-LO)
Malignancy and hyperplasia (AUB-M)



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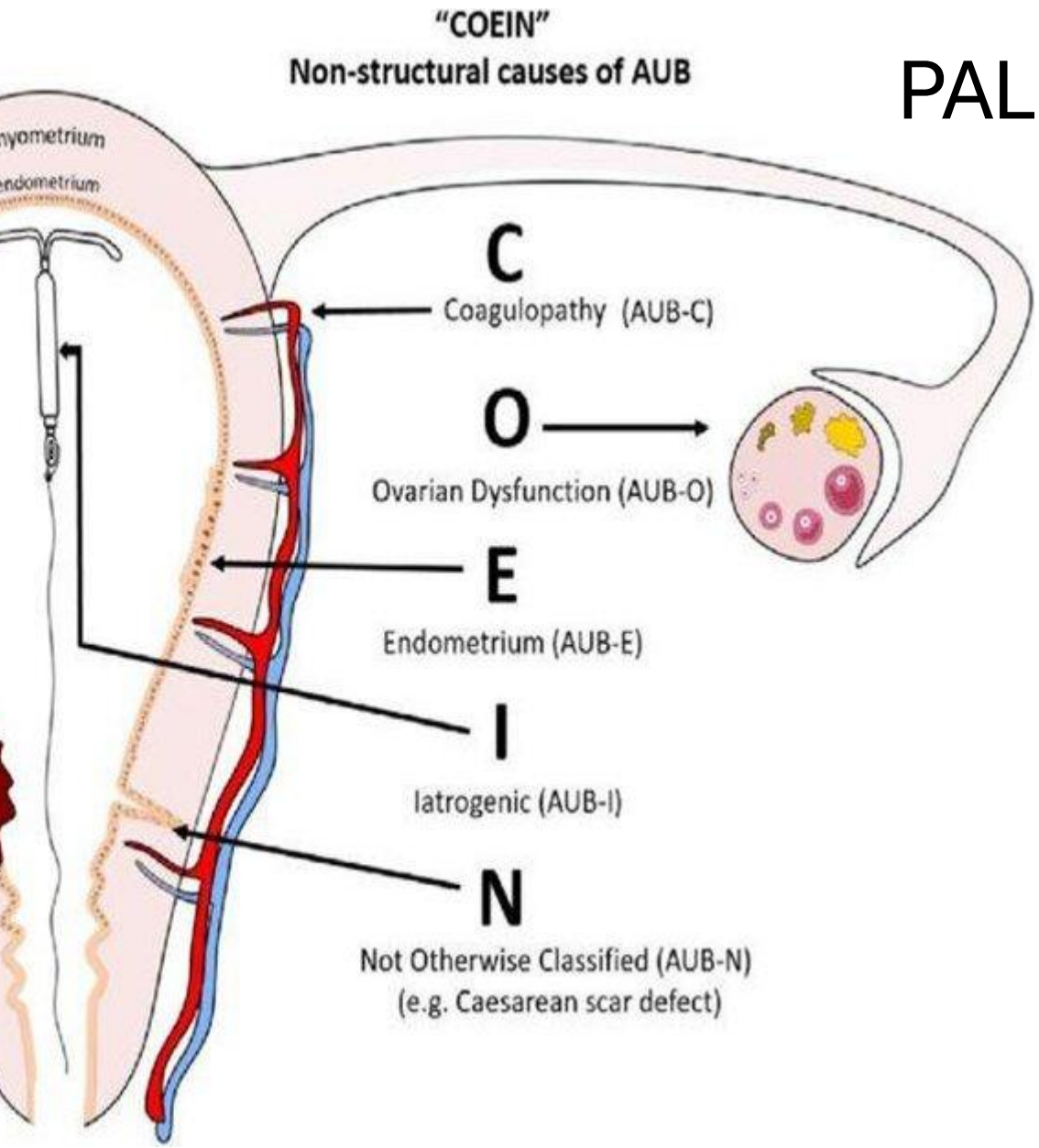
PALM-COEIN Classification System



Non-Structural Etiologies (COEIN):

Coagulopathy (AUB-C)
Ovulatory dysfunction (AUB-O)
Endometrial (AUB-E)
Iatrogenic (AUB-I)
Not yet classified (AUB-N)

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The Workup: History & Screening for Coagulopathy

Assess:

- Current episode: onset, duration, volume (clots, pad saturation frequency)
- Menstrual history: pattern since menarche, prior episodes
- Medications: anticoagulation therapy, antiplatelet agents, chemotherapy
- Systemic disease: hepatic dysfunction, renal disease, thyroid disorders
- Gynecologic: contraception, prior procedures, STI risk

The Workup: History & Screening for Coagulopathy

Epidemiology:

- 13% of women with heavy menstrual bleeding have von Willebrand disease
- Up to 20% have underlying coagulation disorders

Screening Tool :

Positive screen = heavy menstrual bleeding since menarche PLUS:

- ≥1 of: postpartum hemorrhage, surgery-related bleeding, dental procedure bleeding
- ≥2 of: bruising 1-2×/month, epistaxis 1-2×/month, frequent gum bleeding, family history

The Workup: Labs & Imaging

- **Initial Laboratory Tests:**
  - Complete blood count (CBC) - Blood type and crossmatch
  - Pregnancy test (β-hCG)
- **If Screening for Coagulopathy is Positive:**
  - PT/aPTT, Fibrinogen
  - von Willebrand panel (vWF antigen, ristocetin cofactor)
- **Endometrial Biopsy:**
  - **Required if >45 years old.**
  - Consider if <45 with risk factors (obesity, unopposed estrogen, persistent AUB).
- **Pelvic Ultrasound:** Based on clinical judgment in a stable patient to evaluate for structural causes (PALM).

Medical Management

- Medical therapy is the **preferred initial treatment** for most patients.

- **Main Objectives:**
  - **Control the current heavy bleeding episode.**
  - **Reduce blood loss in subsequent cycles.**

Medical Management (Hormonal)

Main Options:

- **IV Conjugated Equine Estrogen (25 mg IV q4-6h):**
  - Only FDA-approved treatment.
  - Stops bleeding in 72% of patients within 8 hours.
- **Multi-dose Oral Contraceptives (OCs):**
  - e.g., Monophasic OC (with 35 mcg EE) TID for 7 days.
  - Stops bleeding in 88% of patients (median time: 3 days).
- **Oral Progestins:**
  - e.g., Medroxyprogesterone acetate 20 mg TID for 7 days.
  - Stops bleeding in 76% of patients.

Medical Management (Non-Hormonal)

- **Tranexamic Acid (Antifibrinolytic):**
  - 1.3 g orally TID for up to 5 days.
  - Prevents fibrin degradation to stabilize clots.
  - Very effective for chronic AUB; recommended by experts for acute AUB.
  - Use with caution with OCs due to theoretical thrombotic risk.
- **Intrauterine Tamponade:**
  - A mechanical option: 26F Foley catheter inserted into the uterus and inflated with 30 mL of saline.

Long-Term Maintenance Therapy

Rationale: Prevention of recurrent acute episodes and management of chronic AUB

Options:

- **Levonorgestrel intrauterine system (LNG-IUS):** Most effective for reducing menstrual blood loss (up to 97%)
- **Combined oral contraceptives:** Monthly or extended-cycle regimens
- **Progestin therapy:**
  - Oral (continuous or luteal phase)
  - Depot medroxyprogesterone acetate (DMPA)
- **Tranexamic acid**
- **NSAIDs:** Mefenamic acid, naproxen (avoid in coagulopathy)

Surgical Management

Indications for Surgical Intervention:

- Hemodynamic instability unresponsive to resuscitation
- Failure of medical management
- Contraindications to medical therapy
- Suspected structural pathology requiring intervention
- Patient preference (definitive management)

Surgical Management

Procedure	Indication	Considerations
Dilation & Curettage	Tissue diagnosis, suspected retained products	**D&C alone inadequate for diagnosis and provides only temporary relief**
Hysteroscopy + D&C	Suspected intrauterine pathology	Superior to blind D&C; allows targeted therapy
Polypectomy	Endometrial polyp identified	Hysteroscopic removal
Myomectomy	Submucosal leiomyoma	Fertility preservation
Endometrial Ablation	Refractory bleeding, childbearing complete	**Malignancy must be excluded first**
Uterine Artery Embolization	Fibroid-related bleeding	Case reports in acute setting
Hysterectomy	Definitive treatment	Ultimate option for failed management

Key ACOG Recommendations (Conclusion)

- **Classify:** Use the PALM-COEIN system to determine the etiology of acute AUB.
- **Treat Medically First:** Medical management should be the initial treatment for most patients.
- Options include IV estrogen, multi-dose OCs or progestins, and tranexamic acid.
- **Consider Surgery When Necessary:** Based on clinical stability, severity, and response to medical therapy.
- Choice of procedure depends on underlying pathology and desire for fertility.
- **Transition:** Once the acute episode is controlled, transition the patient to a long-term maintenance therapy to prevent recurrence.

Discussion / Questions

- Questions?
- Discussion