### Approach to Abnormal Uterine Bleeding in Adolescents

journal of clinical research in pediatric endocrinology IF=1.86

ارائه دهنده: محمد عاشوری

استاد راهنما: دکتر بندریان

## Introduction

- Adolescents menstural problems
- Abnormal uterine bleeding
- Causes of AUB

## **Normal Menstrual Cycle in Adolescents**

- age of onset
- HPO axis maturation
- in adults

## **Classification of AUB**

- heavy menstrual bleeding (HMB)
- PALM-COEIN
- acute or chronic

## **Clinical Evaluation**

- A challenging and often neglected problem
- Cycle to cycle variability
- Inconsistency in giving information
- Bleeding disorders

# Diagnosis

- An accurate history of patient's cycles is the main issue for diagnosis.
- Pregnancy, PCOS, underlying bleeding disorder
- Initial screening

## **Physical Examination**

- tachycardia and orthostatic hypotension
- bruises and petechiae
- pelvic and bimanual examination

## **Laboratory Evaluation and Imaging**

- Complete blood count, blood type, cross match
- Pregnancy test
- PT, PTT, fibrinogen level
- Von Willebrand-ristocetin cofactor activity, von Willebrand antigen and factor VIII
- Testosterone, DHEAS, prolactin
- Neisseria gonorhhea and Chylamidia trachomatis
- Pelvic imaging

# Table 1. Differential diagnosis of abnormal uterine bleeding in adolescents

EndocrineMedicationsAnovulatory bleedingAnticoagulantsPolycystic ovary syndromeDepot medroxyprogesterone implantsThyroid disordersIntrauterine devicesHyperprolactinemiaTraumaBleeding disordersForeign bodiesVon Willebrand diseaseForeign bodiesPlatelet dysfunctionIntrauterine devicesThrombocytopeniaIntrauterineClotting factor deficiencyIntervencePregnancyInfactionsAbortionInfectionsGestational trophoblastic diseaseInfectionsCervicitisInfectionsSexually transmitted diseaseInfectionsPluppInfancePolypInfanceAdenomyosisInfactionsMalignancyInfactions	bleeding in adolescents	
Polycystic ovary syndrome Thyroid disordersDepot medroxyprogesterone implantsHyperprolactinemiaIntrauterine devicesBleeding disordersTraumaVon Willebrand diseaseForeign bodiesPlatelet dysfunctionForeign bodiesThrombocytopeniaIntrauterine devicesClotting factor deficiencyPregnancyAbortionEctopic pregnancyFirst trimester bleedingIntrauterineGestational trophoblastic diseaseIntercentionClottitisEndometritisSexually transmitted diseaseIntercentionVerrine pathologiesVerrine pathologiesPolypLeiomyomaAdenomyosisIntercention	Endocrine	Medications
Thyroid disordersimplantsHyperprolactinemiaIntrauterine devicesBleeding disordersTraumaVon Willebrand diseaseForeign bodiesPlatelet dysfunctionThrombocytopeniaClotting factor deficiencyPregnancyAbortionEctopic pregnancyFirst trimester bleedingGestational trophoblasticGestational trophoblasticSexually transmitteddiseaseUterine pathologiesPolypLeiomyomaAdenomyosisSexually compare	Anovulatory bleeding	Anticoagulants
Intrauterine devicesHyperprolactinemiaIntrauterine devicesBleeding disordersTraumaVon Willebrand diseaseForeign bodiesPlatelet dysfunctionIntrauterine devicesThrombocytopeniaClotting factor deficiencyClotting factor deficiencyPregnancyAbortionEctopic pregnancyFirst trimester bleedingGestational trophoblasticGestational trophoblasticInfectionsCervicitisEndometritisSexually transmittedSexually transmitteddiseasePolypLeiomyomaAdenomyosis	Polycystic ovary syndrome	
HyperprotactmentBleeding disordersTraumaVon Willebrand diseaseForeign bodiesPlatelet dysfunctionForeign bodiesPlatelet dysfunctionForeign bodiesThrombocytopeniaClotting factor deficiencyPregnancyAbortionEctopic pregnancyFirst trimester bleedingGestational trophoblastic diseaseSexually transmitted diseaseInfectionsCervicitisEndometritisSexually transmitted diseaseUterine pathologiesPolypLeiomyoma AdenomyosisAdenomyosis	Thyroid disorders	
Von Willebrand diseaseForeign bodiesPlatelet dysfunctionThrombocytopeniaClotting factor deficiencyPregnancyAbortionEctopic pregnancyFirst trimester bleedingGestational trophoblastic diseaseInfectionsCervicitisEndometritisSexually transmitted diseaseVuerine pathologiesPolypLeiomyomaAdenomyosis	Hyperprolactinemia	Intrauterine devices
Platelet dysfunction Thrombocytopenia Clotting factor deficiency Pregnancy Abortion Ectopic pregnancy First trimester bleeding Gestational trophoblastic disease Infections Cervicitis Endometritis Sexually transmitted disease Uterine pathologies Polyp Leiomyoma Adenomyosis	Bleeding disorders	Trauma
Thrombocytopenia Clotting factor deficiency Pregnancy Abortion Ectopic pregnancy First trimester bleeding Gestational trophoblastic disease Infections Cervicitis Endometritis Sexually transmitted disease Uterine pathologies Polyp Leiomyoma Adenomyosis	Von Willebrand disease	Foreign bodies
Clotting factor deficiency Pregnancy Abortion Ectopic pregnancy First trimester bleeding Gestational trophoblastic disease Infections Cervicitis Endometritis Sexually transmitted disease Uterine pathologies Polyp Leiomyoma Adenomyosis	Platelet dysfunction	
Pregnancy Abortion Ectopic pregnancy First trimester bleeding Gestational trophoblastic disease Infections Cervicitis Endometritis Sexually transmitted disease Uterine pathologies Polyp Leiomyoma Adenomyosis	Thrombocytopenia	
Abortion Ectopic pregnancy First trimester bleeding Gestational trophoblastic disease Infections Cervicitis Endometritis Sexually transmitted disease Uterine pathologies Polyp Leiomyoma Adenomyosis	Clotting factor deficiency	
Ectopic pregnancy First trimester bleeding Gestational trophoblastic disease Infections Cervicitis Endometritis Sexually transmitted disease Uterine pathologies Polyp Leiomyoma Adenomyosis	Pregnancy	
First trimester bleeding Gestational trophoblastic disease Infections Cervicitis Endometritis Sexually transmitted disease Uterine pathologies Polyp Leiomyoma Adenomyosis	Abortion	
Gestational trophoblastic disease Infections Cervicitis Endometritis Sexually transmitted disease Uterine pathologies Polyp Leiomyoma Adenomyosis	Ectopic pregnancy	
disease Infections Cervicitis Endometritis Sexually transmitted disease Uterine pathologies Polyp Leiomyoma Adenomyosis	First trimester bleeding	
Infections Cervicitis Endometritis Sexually transmitted disease Uterine pathologies Polyp Leiomyoma Adenomyosis		
Cervicitis Endometritis Sexually transmitted disease <b>Uterine pathologies</b> Polyp Leiomyoma Adenomyosis		
Endometritis Sexually transmitted disease <b>Uterine pathologies</b> Polyp Leiomyoma Adenomyosis		
Sexually transmitted disease <b>Uterine pathologies</b> Polyp Leiomyoma Adenomyosis		
disease Uterine pathologies Polyp Leiomyoma Adenomyosis		
Polyp Leiomyoma Adenomyosis		
Leiomyoma Adenomyosis	Uterine pathologies	
Adenomyosis	Polyp	
	Leiomyoma	
Malignancy	Adenomyosis	
	Malignancy	

## Management

- Outpatient management and reassurance
- Treatment is required when AUB causes **anemia** or **impairs quality of life**
- Medical / Surgical

## **Management of Girls with Acute Bleeding**

- What is called severe AUB?
- oral contraceptive pills (OCP)
- conjugated estrogen
- blood transfusion
- Platelet transfusion, clotting factors
- maintenance treatment
- consultation with a hematologist
- discharge

#### • No NSAID

- Concomitant use of tranexamic acid and OCP
- Desmopressin

## **Failure of first-line medical management**

 Even in cases of life threatening bleeding, procedures such as uterine artery embolization, endometrial ablation and hysterectomy should not be performed

intrauterine balloon insertion

## Management of Girls with Mild or Moderate Bleeding

- Reassurance
- NSAIDs
- Hormonal therapy
- Daily iron treatment

## **Long-term Management of Girls with Bleeding Disorders**

- Diet optimization and iron supplementation
- Hormonal treatments
- LNG-IUD

## Conclusion

- AUB at the beginning of the reproductive age
- Evaluation
- Medical therapy