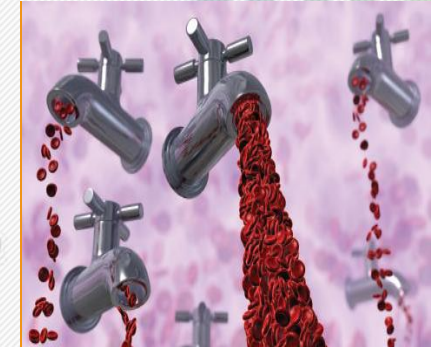


# Long term effects of PCOS

# Dysfunctional Uterine Bleeding

Dr. Arulmozhi Ramarajan  
Church of South India Hospital, Bangalore



# Abnormal uterine bleeding

- Affects health-related QOL
- Causes social embarrassment
- Decreases productivity
- The complaint could be:
  - Irregular periods, prolonged bleeding
  - Regular periods, scanty bleeding
  - Or, heavy menstrual bleeding

- Every woman faces it, between menarche & menopause.
- Rule rather than exception in those with PCOS!

# The problem, and the approach

- Incidence of AUB in India is 17.9%

Evidence-based Good Clinical Practice Recommendations for Indian women

FOGSI Recommendations under aegis of Gynae Endocrine Society of India (GESI)

- Avoid use of old overlapping terminology

- Use FIGO's "PALM COEIN" (Grade A Level 1)



**Management Guidelines of  
Abnormal Uterine Bleeding in  
Reproductive Period**

# DUB in PCOS

causes

1. Ovulatory dysfunction
2. Coagulopathy
3. Endometrial dysfunction
4. Iatrogenic
5. Others - N & M

“PALM COEIN”

# DUB in PCOS: Causes

## 1. Ovulatory dysfunction

Ovulatory dysfunction

- Irregular menses
- Prolonged menstrual bleeding
- Scanty menses

Endometrial hyperplasia

- Heavy menstrual bleeding
- Intermenstrual bleeding

Endometrial carcinoma

• The worst!

- ❖ From menarche to menopause
- ❖ Most common complaint

# DUB in PCOS: Causes

## 2. Coagulopathy

“Approx 13% of women with HMB have biochemically detectable systemic disorders of hemostasis, most often von Willebrand disease”

- ❖ Young women with PCOS
- ❖ HMB since menarche
- ❖ Regular, painful periods
- ❖ Family history of bleeding disorders

Shankar M, Lee CA, Sabin CA, et al.  
von Willebrand disease in women with menorrhagia: a systematic review.  
BJOG 2004;111(7):734-40

# DUB in PCOS: Causes

## 3. Endometrial dysfunction

- ↓ production of vasoconstrictors (Endothelin-1 and  $\text{PGF2}\alpha$ ),
- ↑ clot lysis because of ↑ production of Plasminogen activator, or
- ↑ production of vasodilators ( $\text{PGE}_2$  and Prostacyclin)

Gleeson NC. Cyclic changes in endometrial tissue Plasminogen Activator and Plasminogen Activator Inhibitor Type 1 in women with normal menstruation and essential menorrhagia. Am J Obstet Gynecol 1994;171(1): 178-83

Smith SK, Abel MH, Kelly RW, Baird DT. Prostaglandin synthesis in the endometrium of women with ovular dysfunctional uterine bleeding. Br J Obstet Gynaecol 1981;88(4):434-42

- ❖ HMB from menarche to menopause
- ❖ May occur in PCOS, *not* causally related

# DUB in PCOS: Other Causes

## 4. Iatrogenic

- Missed, delayed, or erratic use of pills, patches, or vaginal rings
- Breakthrough bleeding during gonadal steroid therapy
- Other drugs, anticonvulsants and antibiotics (griseofulvin), tricyclic antidepressants (amitriptyline and nortriptyline) and phenothiazines, anticoagulants.

- ❖ PCOS on hormones
- ❖ History of other drug intake



# DUB in PCOS: Other Causes

## 5. Other causes

- Chronic endometritis
- AV malformations
- Pregnancy related bleeding
- Thyroid dysfunction

- ❖ Reproductive age women
- ❖ Perimenopausal women

Working Group on Menstrual Disorders  
*International Journal of Gynecology and Obstetrics* 113 (2011) 3 - 13

# Management of DUB in PCOS

## Associations

- Obesity - Irregular cycles, scanty periods
- Ovulatory dysfunction - Heavy menstrual bleeding
- Insulin/LH dysregulation - Irregular, prolonged cycles
- Hyperandrogenism - Oligomenorrhea, amenorrhea

Treatment to be tailored to address concerns of the patient, and depending on age & severity

# Long term effects of DUB



1. Anemia

2. Infertility

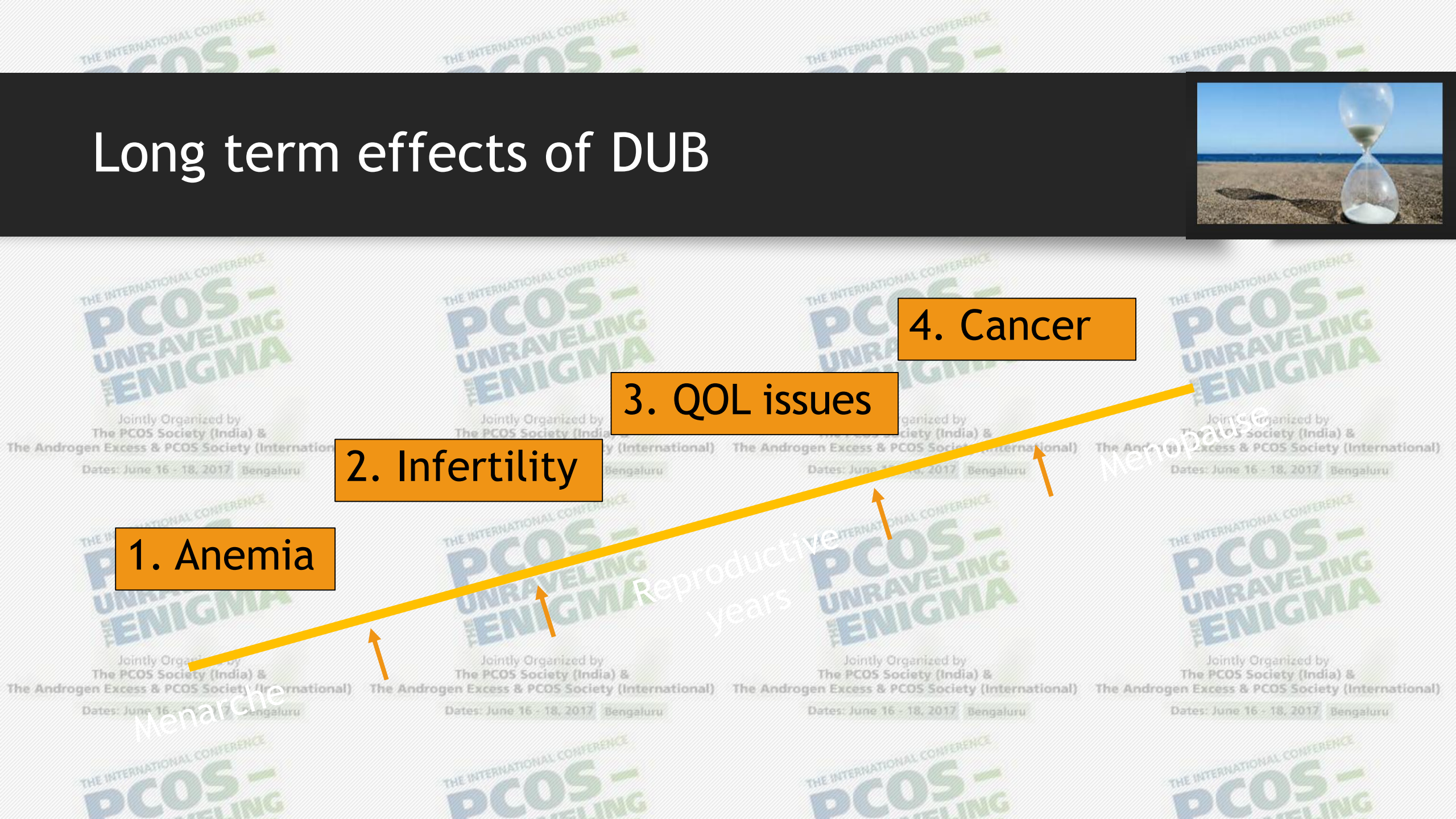
3. QOL issues

4. Cancer

Reproductive years

Menopause

Menarche



# Long term effects of DUB



## 1. Anemia

- Tiredness
- Poor memory
- Low immunity
- Pregnancy complications
- Depression
- Low work performance

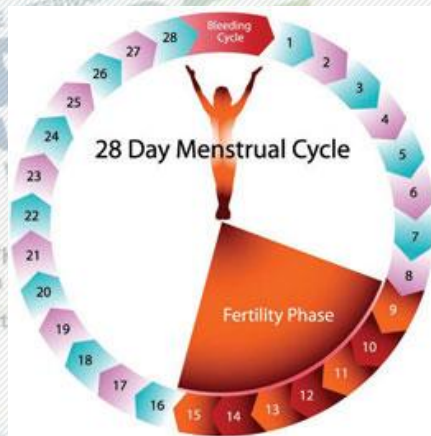
Iron supplementation, iron rich diet, IV iron therapy

# Long term effects of DUB



## 2. Infertility

1. Anovulation in PCOS causes DUB and infertility.
2. Obesity, difficulty in achieving weight loss
3. Low sex drive and fatigue caused by prolonged menstrual bleeding



Ovulation induction to reverse the anovulation is the principal treatment used to help infertility (& DUB) in PCOS.

# Long term effects of DUB



## 3. QOL

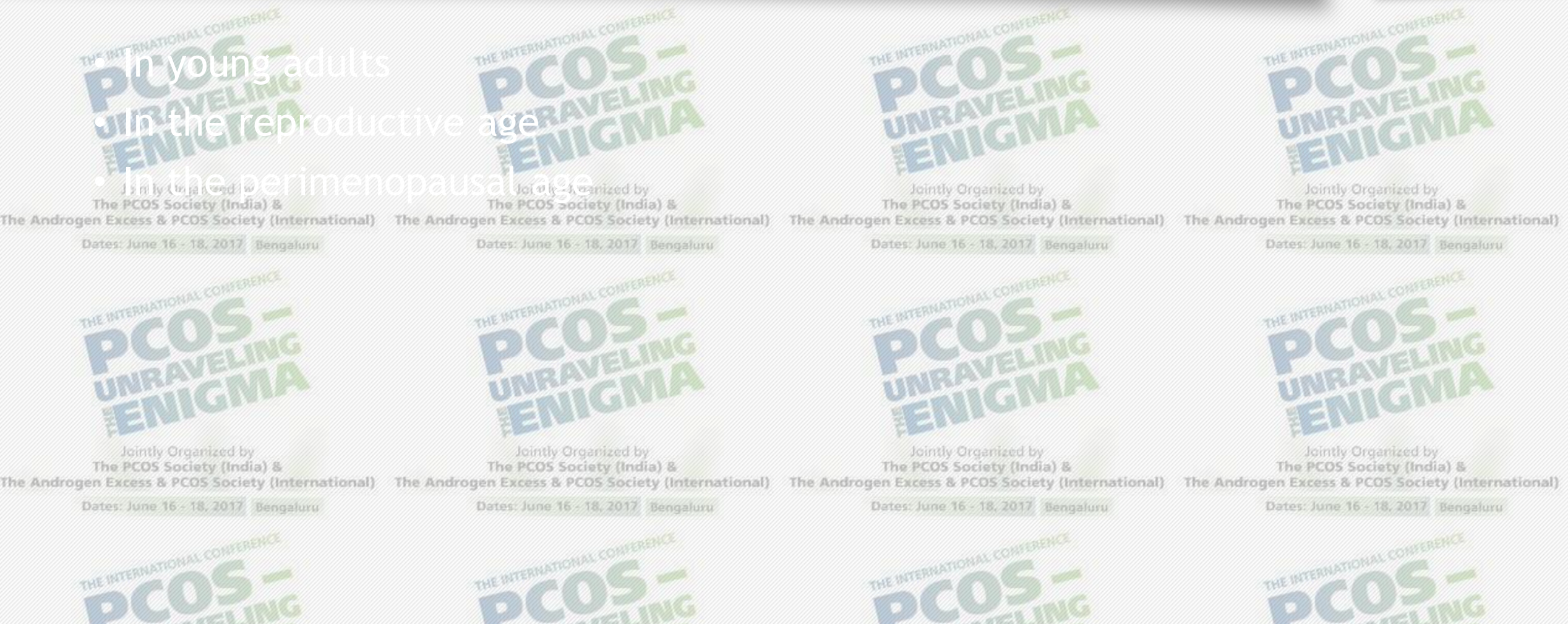
- Sedentary life style, inappropriate diet
- Metabolic syndrome
- Depression
- Anemia - low performance

Achieving bleeding control, life style modification



# Management

- In young adults
- In the reproductive age
- In the perimenopausal age





# In young adults



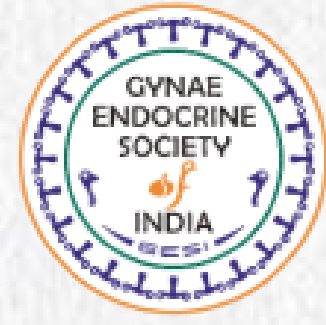
- Unpredictable or heavy menses
- Irregular periods, unplanned pregnancy
- Anemia
- Psychological morbidity

# What constitutes a positive screen for coagulopathies?



- HMB since menarche
- Any one of the following:
  - Post partum hemorrhage
  - Bleeding at dental work
  - Surgery related bleeding
- Any two of the following:
  - Bruising
  - Epistaxis
  - Gum bleeding
  - Family history of bleeding

# Investigations:



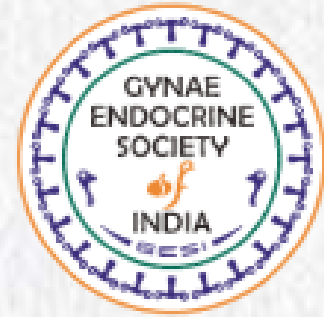
## Bloods:

- CBC
- Bleeding time, platelet count, PT / PTT
- beta HCG
- Ristocetin cofactor activity
- von Willebrand factor antigen
- Factor VIII activity
- TSH

## Imaging:

- TAS / TVS

# Management



TXA / MFA

COCs with DRSP / CPA / MPA / LNG IUS

Coagulation defect?

Factor replacement / desmopressin

Check: Thyroid dysfunction / coagulation defects  
Life style modification

Correct anemia to improve QOL

## AUB-C (Coagulopathy)

### Recommendations specific to AUB-C



1. In patients with AUB-C, non-hormonal treatment with **tranexamic acid (1 g qid)** as primary option and hormonal treatment with **COCs/LNG-IUS** as secondary option\* are recommended in consultation with a haematologist, with the following considerations (Grade A; Level 2)
  - a. For refractory patients of vWD with uncontrolled uterine bleeding with above medical management **specific factor replacement** where possible or **desmopressin** to be given in refractory cases of von-willebrand disease in consultation with haematologist.
  - b. When surgical interventions are indicated, appropriate pre-, intra- and post-operative management of bleeding should be done.

**\*NSAIDs are contraindicated** as they can alter platelet function and interact with drugs that might affect liver function and production of clotting factors [8, 106].

**\* Intramuscular injectable preparations are contraindicated,** except in mild coagulation abnormalities. When administered, prolonged pressure should be applied at injection site

# In the reproductive years

- Unpredictable cycles
- Subfertility
- Anemia
- Psychological morbidity





# Investigations:

## Imaging:

- USG to evaluate uterus, adnexa and ET (Grade A Level 1)
- Doppler USG in suspected AV malformation, malignancy (Grade B Level 3)

## Endometrial histopathology

- Women < 40 years of age with risk factors including PCOS (Grade A Level 2)



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# Management

Tranexamic acid / NSAIDs  
COCs / Progesterone / LNG IUS  
Ovulation induction

Correct anemia to improve QoL





## AUB-O (Ovulatory Dysfunction)

### Recommendations specific to AUB-O



1. In women not desiring conception presently, COCs can be used as first-line therapy for 6-12 months (Grade A; Level 1).
2. Cyclic luteal-phase progestins (for 10-14 days) can be used as a specific treatment in women with
3. Norethisterone cyclically (for 21 days) is given as initial therapy in acute episodes of bleeding for short-term management of 3 months (Grade B; Level 4).
4. It is suggested to assess response after 1 year of medical management and judge to continue/discontinue existing therapy (Grade B; Level 4).
5. Surgical intervention is not recommended unless, there is evidence of persistent AUB or failure of medical management to alleviate the condition (Grade A; Level 4).
6. If COCs are contraindicated or patient is unwilling for COCs, LNG-IUS is recommended if she wishes to use it for at least 1 year (Grade A; Level 1).
7. In adolescents with AUB-O, both hormonal and non-hormonal therapies can be prescribed, (Grade A; Level 4).

# In perimenopausal age



- Anemia
- Fear of cancer / surgery
- Endometrial carcinoma



## In the perimenopausal age:

### Imaging:

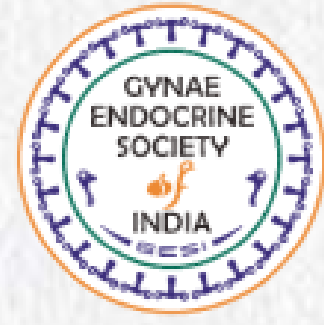
- USG to evaluate uterus, adnexa and ET (Grade A Level 1)
- Doppler USG in suspected AV malformation, malignancy (Grade B Level 3)

### Endometrial histopathology

- Women > 40 years of age (Grade A Level 2)
- Women < 40 years of age with risk factors **including PCOS** (Grade A Level 2)
- Endometrial aspiration is the preferred procedure (Grade A Level 2)
- Hysteroscopy if endometrium is thick (polyp) / atrophic (Grade A Level 2)
- D & C should not be the procedure of choice (Grade A Level 3)

## AUB-M (Malignancy and Endometrial Hyperplasia)

### Recommendations for AUB-M



1. In AUB-M with endometrial malignancy, standard protocol for management of malignancy should be followed (Grade B; Level 4).
2. In AUB-M with endometrial hyperplasia with atypia, hysterectomy is the standard treatment. (Grade B; Level 2). Conservative treatment with high-dose progestins and close histological monitoring should only be considered in exceptional cases (when the patient wants to have children and compliance is satisfactory.)
3. In AUB-M with **endometrial hyperplasia without atypia**, LNG-IUS can be considered as first-line therapy; alternatively oral progestins can be used (Grade A; Level 1). Preventive hysterectomy should only be considered in exceptional cases (e.g., extreme obesity without any prospect of weight loss).

# Last but not the least..

Psychological morbidity

“I have P’COS”

“I’m so fat... and my skin...”

“I have DUB!”

“I have very light periods, & I’m bloating”

“I have no periods, I can’t have children?”

“I may have uterine cancer??”

- Arrest abnormal bleeding
- Induce ovulation
- Prevent endometrial cancer

• Appropriate management of DUB prevents much long term morbidity in PCOS

• The need for continued counseling and psychological support cannot be over emphasized.

Thank you