DYSFUNCTIONAL UTERINE BLEEDING

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Few terms student should know

***Polymenorrhoea*:- frequent (<21 d) menstruation, at regular intervals.**

***Menorrhagia:-* Excessive (>80 ml) & / or prolonged menstruation, at regular intervals.**

***Metrorrhagia*:- Excessive (>80 ml) & / or prolonged menstruation at irregular intervals.**

***Poly menorrhagia:-* both excessive and prolonged cycle also cyclical bleeding**

Intermenstual bleeding:- episodes of uterine bleeding between regular menstruations

***Hypomenorrhoea*:- scanty menstruation**

***Oligomenorrhea:-* infrequent menstruation (>35 d).**

D.U.B.

Definition:- Abnormal uterine bleeding in the absence of organic pathology which include, pregnancy, infection and tumor.

Types:-

1- **Primary D.U.B. Here the bleeding is due to genital tract problems and of uterine in origin.**
2- **Secondary D.U.B. Here the bleeding because of extra genital cause like secondary to T.B, hypothyroidism, diabetes or bleeding disorders.**
3- **Iatrogenic D.U.B. Here the bleeding caused by injectable contraception, device or oral contraception.**

ORGANIC CAUSES OF BLEEDING INCLUDES THE FOLLOWINGS:-

Pregnancy complications

Abortion, Ectopic pregnancy, Trophoblastic disease and genital diseases.

Tumors

(Benign: fibroid, polyps (cervical, endometrial, fibroid

(Malignant: cervical, endometrial, ovarian (estrogen secreting

Infections:- .

P.I.D, endometriosis, adenomyosis and IUCD.

Extragenital

Endocrine: hypo or hyper thyroidism .

Haematological: Idiopathic thrombocytopenic purpura, Von-Willebrand . disease

Chronic systemic disease: liver failure, renal failure, hypertension with uterine artery atherosclerosis

Iatrogenic: Sex hormones, anticoagulants .

Obesity: [increased peripheral estrogen conversion]

Another classifications of D.U.B according to pathophysiology

1- **An ovulatory D.U.B happened in 90% of cases it is either overactive or under active, metropathia hemorrhagica or threshold bleeding respectively.**
2- **Ovulatory D.U.B happened in 10 % of cases. It is also subdivided in to over and under active, irregular shedding and ripening of the endometrium respectively.**
3- **Corpus luteum abnormalities also sub divided in to over and under active, prolonged and corpus luteal insufficiency respectively.**

Extent of investigations to be done before you label the problem as D.U.B

-Combined abdomino-pelvic examination.

-Abdomino-pelvic scan by U/S.

- Endometrial sampling.

PATHOPHYSIOLOGY &POSSIBLE CAUSES FOR D.U.B.

1- **Increase in the surface area of the endometrium as increase in the size of the uterus.**
2- **Increase in the vascularity of the uterus.**

3- **Increase in the fragility of vessels where there is destruction ion the collagen layer of the vessels with replacement by fibrosis.**
4- **Increase in the level of lytic substances in comparison to the coagulative substances, which intern lead to excessive fibrinolysis.**
5- **Increase in the level of prostacyclin which is working as dilator in comparison to thromboxane group which work as vessel contractor. PG I2 and E2 work as dilator while PG F2& work as vessels contractor.**

AN-OVULATORY BLEEDING:-

1- **Metropathia haemorrhagica (over active)**

This occurred because of excessive production of unopposed estrogen because the cycle was un-ovulatory so there is no progesterone which antagonizes estrogen.

This will lead to over growth of the endometrium with increase thickness and hyperplastic changes reaching to a stage where the vascularity of the endometrium will not be more enough to supply this hyperplastic changes so this will lead to shedding of the thickened endometrium and severe bleeding. Typically the patient presented with H/O short amenorrhea followed by heavy bleeding and it should be differentiated from ectopic gestation which is differ in the occurrence of pain ,that was not present in the former.

2- **THRESHOLD BLEEDING (under active)**

Here there is continuously low level of estrogen which is important in the healing of damaged endometrium so continuous low level of estrogen will lead to on and off bleeding.

CORPUS LUTEAL ABNORMALITY

1- **Prolonged corpus luteal activity, here there is prolonged active corpus luteum which remain active until the next cycle so on sampling of the endometrium we will see both secretory phase of the previous cycle and proliferative phase of the new cycle.**
2- **Corpus luteum insufficiency:- here the corpus luteum in insufficient to cover the whole secretory phase of menstrual cycle which is usually constant 14 days, this insufficient progesterone secretion will lead to premenstrual bleeding or spotting. This must be differentiated from cervical polyp and erosion.**

OVULATORY BLEEDING

1- **Irregular shedding of the endometrium**
2- **Irregular ripening of the endometrium**

In the above condition there is speeding of the cycle due to shortening of the proliferative phase of the endometrium because of the formation of more than one G.F at a time resulting in more production of estrogen from these follicles.

This in turn will result in shortened cycle and hence more bleeding

While in case of irregular ripening few follicles will formed and small size resulting in un-repaired endometrium properly and hence more bleeding.

INVESTIGATIONS

A- NON INVASIVE

Hb%, PCV

GUE looking for sugar

B.U, serum creatinine

Hormonal assay like TSH, Prolactin

Pelvic angio- graphy to exclude uterine congestion

MRI and CAT scan for those with suspected small hormone secreting tumors like granulosa cell tumor.

Coagulation profile to exclude bleeding disorders.

Liver function and renal function to asses the fitness of the patient to surgery.

ULTRASONOGRAPHY

1-TAS: can exclude pelvic masses, pregnancy complications

2-TVS: More informative than TAS. Measurement of the endometrial thickness is not a replacement for biopsy. All endometrial carcinoma in postmenopausal with endometrial thickness>4 mm3. Saline sonography: an alternative to office hysteroscopy in selected cases. It is better tolerated than office hysteroscopy or HSG

B-Invasive investigations

Endometrial biopsy:

Indications :

-Between 20 & 40 years of age.

-If endometrial thickness on TVS is >12mm, endometrial sample should be taken to exclude endometrial hyperplasia (Grade A).

Failure to obtain sufficient sample for H/P does not require further investigation unless the endometrial thickness is >12 mm (Grade

Arrest of the bleeding, if the bleeding is severe or persistent, particularly hyperplastic endometrium .

Curettage is essentially a diagnostic & not a therapeutic procedure.

Disadvantages :

-Small lesions can be missed

-The sensitivity of detecting intrauterine pathology is only 65%

D & C (diagnostic curettage):

Indications:

Mandatory after 40 yrs.

Persistent or recurrent bleeding between 20 & 40 yrs.

Aim:

Diagnosis of organic disease e.g. endometritis, polyp, carcinoma, TB, fibroid

Diagnosis of the type of the endometrium: hyperplastic, proliferative, secretory, irregular ripening, shedding, atrophic. This provides a guide to etiology & treatment

Methods: As an outpatient procedure, without general anesthesia.

-Sharman curette

-Vabra aspirator

Advantages: An adequate & acceptable screening procedure in females under 40 yrs.

Hysteroscopy:

Indications :

Mandatory after 40 yrs, erratic menstrual bleeding, and failed medical treatment

TVS suggestive of intrauterine pathology e.g. polyp, fibroid (Grade B)

-Excellent view of the uterine cavity & diagnosis of polyps, submucous fibroid, hyperplasia.

-Biopsy of the suspected areas

-Treatment as hysteroscopic resection of sub-mucus masses and so on.

MEDICAL TREATMENT

A-Non hormonal theerapy

1- **Non steroidal anti-inflammatory drugs, which include mefanimic acid 500mg thrice daily during the bleeding attack indomethacin capsule thrice daily may also be given.**
2- **Anti-prostaglandin like aspirin can be given 300mg thrice daily to decrease bleeding.**
3- **Anti- fibrin lytic agents like epsilon amino-caparoic acid (cyclokapron) 500 mg thrice daily help in reducing amount of bleeding especially for those with excessive fibrinolysis.**

B-Hormonal therapy

1-Androgenic compounds;- because of its virilizing effects it is now no more used although it is effective treatment of D.U.B.

2-Estrogenic compound (estrogen therapy) it is used only for those with threshold bleeding with definite low estrogen level in their blood.

3-Combind pills used as contraception for those who don't want no more fertility & for cycle regulation especially in cases of metrorrhagia.

4-Progesteron therapy:- used in the form of norethisterone either:-

a- **To stop bleeding that was during the attack of vaginal bleeding in form of 20-30 mg as a total dose i:e two tablets thrice daily each tablet contain 5mg of Noethisterone.**
b- **Given from 20-25th day of menstrual cycle for those with premenstrual spotting (corpus luteal insufficiency), usually given as two tablets daily of mg each.**
c- **Given from 16-25th day of cycle for those with un-ovulatory D.U.B with metropathia hemorrhagica, given as tablets twice daily.**
d- **Given from 5-25th of cycle for those with irregular vaginal bleeding with no timing, given for cycle regulation and as a treatment.**
e- **Combined already mentioned.**
f- **Injectable progestin given in form of medroxy progesterone acetate 150mg each ampule given once or twice weekly(Depo-provera).**

Or as injectable hydroxyl progesterone hexanoate injectable drugs (Primolut-depot) given as 500mg once to twice weekly to stop bleeding.

DANAZOLE (17TH ETHINYL TESTOSTERONE):- It is weak anti-estrogenic compound work at the level of hypothalamus to suppress the bleeding , given as 200mg thrice or four times daily for 3-6 months.

GESRINONE (19 ETHINYL TESTOSTERONE)

It has almost the same action of the above drug but it is more costy.

LHRH Analogues like decapeptyl and Besirlin they must be given in pulsatile form

Decapeptyl given in a dose 3.6 mg.

SURGREY

Total abdominal hysterectomy with or without salpigo-oopherectomy depend on the age of the patient which is usually taken as 47 years.

RECENT MANAGEMENT OF D.U.B.

1-Trans- cervical endometrial resection of the endometrium. This method usually used for those who refuse hysterectomy for ethnic or any other cause and for those who can't withstand major surgery.

This type of surgery done through hysteroscopy rigid or flexible hysteroscope,resection done either by laser or thermic resection.

2-Chemical irrigation of the endometrium by certain chemical which lead ablation of the endometrium with atrophic changes to the endometrium like tincture iodine, urea, hypertonic saline and so on

3- Physical irradiation to the endometrium and/or to the ovaries in order to induce fibrosis and further future adhesions

4- **Cold coagulation or electric coagulation or by ARGON or CO2 laser.**