Menstrual cycle disorders and abnormal bleeding

Abnormal conditions of the menstrual cycle are deviations from what is normal for an individual woman. The condition may occur in the frequency or length of the cycle, volume or length of menstrual follow or the total number of years of menstruation. Menstrual cycle conditions may be classified as amenorrhea, Mittelschmerz's, syndrome, dysmenorrhea, dysfunctional uterine bleeding, premenstrual syndrome, menorrhagia polymenorrhea, metrorrhagia, oligomenorrhea and hypomenorrhea.

AMENORRHEA

Amenorrhea is the absence or lack of menstruation dating the productive years. Normal causes Include pregnancy, lactation and menopause. Other causes can be pathologic and may include stress, excessive exercise, eating disorders, wright loss, a low body mass index (BMI) or other potentially life threatening Disorders. Having 2 types, primary and secondary

Primary Amenorrhea

Primary Amenorrhea is the absence of menarche until age of 16 years or the absences the development of secondary characteristics and menarche ill age of 14 years

Causes

Causes of primary amenorrhea include

- hypothalamic, pituitary or enzymatic problems
- Chromosomal abnormalities
- Genitourinary abnormalities
- Drugs

Symptoms

- Failure to experience menarche when there has been development of secondary sex characteristics
- No menarche and absence of development of secondary sex characteristics as in syndrome.

Management

Therapeutic interventions depend on the cause of amenorrhea

Estrogen replacement therapy (ERT) to stimulate development of secondary sex characteristics and to prevent osteoporosis.

Secondary Amenorrhea

Secondary amenorrhea is the absence of menstruation for at least 6 months or for three cycles after menarche

Causes

- Physiologic response to pregnancy, lactation or anovulation
- Hypothyroidism or hyperthyroidism

- Adrenal disease
- Chronic renal disease
- Polycystic ovary syndrome
- Chronic hepatic disease
- Anorexia nervosa
- Malnutrition
- Vigorous athletic training

Investigations

Thyroid function tests

Blood glucose level

Laparoscopy to check ovarian pathology

Ultrasound to check polycystic ovary syndrome.

Management

Cyclic progesterone therapy if the cause is anovulation

Oral contraceptives for women who desire contraception

Bromocriptine if there is hyperprolactinemia

Gonadotropin-releasing hormone (GnRH), when the cause is hypothalamic failure

Thyroid hormone replacement for hypothyroidism

Calcium and estrogen to prevent development of Osteoporosis.

DYSMENORRHEA

Dysmenorrhea is painful menstruation or cramping during menstruation. Typically dysmenorrhea begins up to 48 hours before onset of menstruation and resolves within 2-4 days of onset or by the end of menstrual period. Dysmenorrhea can be classified as primary (spasmodic) or secondary (congestive).

Primary Dysmenorrhea

Primary dysmenorrhea is one where there is no pelvic pathology. Usually occurs within 1-3 years of menarche.

Causes

Painful uterine contractions stimulated by prostaglandin produced by the endometrium during menstruation.

Symptoms

- Sharp, intermittent suprapubic pain radiating to the back or thighs

- Headache and backache
- Fatigue, dizziness and syncope
- Gastrointestinal (GI) symptoms: Nausea, vomiting and bloating.

Treatment

Women often experience reduction in dysmenorrhea after pregnancy. Therapeutic intervention includes:

- Nonsteroidal anti-inflammatory drugs (NSAIDs) started 1-3 days before the onset of menstruation (to decrease prostaglandin production)
- Oral contraceptives to decrease endometrial proliferation and production of prostaglandin.

Secondary DYSMENORRHE

Secondary dysmenorrhea is painful menstruation resulting from a pathologic process. The pain may be related to increasing tension in the pelvic tissues due to pelvic congestion or increased vascularity in the pelvic organs. Patients are usually in 30s and parous.

Causes

- Chronic pelvic infection
- Pelvic endometriosis
- Pelvic adhesions
- Uterine fibroids
- Endometrial polyp
- Intrauterine contraceptive device (IUCD) in utero.

Symptoms

- Dull pain situated in the back and front
- Pain starts 3-5 days prior to onset of menstruation and relieves with the start of bleeding
- Symptoms of associated pathology and no systemic discomfort.

Treatment

- Treatment involves correction of the cause. The type of treatment depends on the severity, age and parity of the patient.

MITTELSCHMERZ'S SYNDROME (OVULAR PAIN)

Mittelschmerz's syndrome is a mid-menstrual pain that occurs around the time of ovulation in menstruating women. The pain is usually situated in the hypogastrium or one iliac fossa.

Characteristics

- . The pain is usually located on one side and does not change according to which ovary is ovulating
- . The pain usually lasts for about 12 hours .
- It may be associated with slight vaginal bleeding or excessive mucoid vaginal discharge.

Probable Causes

- Increased tension of the Graafian follicle prior to rupture .
- Peritoneal irritation by the follicular fluid following ovulation
- Contraction of the fallopian tubes and uterus.

Treatment

- Analgesics and reassurance
- Contraceptive pills to make the cycle anovular in obstinate cases

DYSFUNCTIONAL UTERINE BLEEDING

Dysfunctional uterine bleeding (DUB) is abnormal uterine bleeding without any clinically detectable cause occurs more often in adolescents and perimenopausal women.

Causes

- Hormonal abnormalities such as anovulation
- Pelvic inflammatory disease (PID)
- Endometriosis
- Neoplasms.

Pathophysiology

Abnormal bleeding is probably due to local causes in the endometrium. There is disturbance of the endometrial blood vessels and capillaries, and coagulation of blood in and around these vessels. These are probably related to alteration in the ratio of endometrial prostaglandins, which are delicately balanced in homeostasis of menstruation.

Clinical Manifestations

1. Polymenorrhea (frequent menstruation): This occurs following childbirth and abortion, during adolescence and premenopausal period.

2. Oligomenorrhea (light or infrequent menstruation)-This occurs in adolescence and preceding menopause.

3. Menorrhagia: Excessive and prolonged menstruation

Investigations

1. History of the nature of menstrual abnormity

2. Internal examination including speculum examination

3. Blood tests: Hemoglobin, complete blood count (CBC) platelets, prothrombin time, bleeding time, partial thromboplastin and thyroid function tests

4. Ultrasound and color Doppler: Transvaginal sonography and saline infusion sonography to detect abnormalities like fibroids and adenomyosis

5 Endometrial biopsy through hysteroscopy to rule out endometrial cancer

6. Laparoscopy to exclude pelvic pathology.

Management

1. General: Correction of anemia by diet, hematinics and blood transfusion if required

2 Oral contraceptives for menstrual cycle regulation

3. Cyclic progesterone for anovulatory bleeding

4. Nonsteroidal anti-inflammatory drugs to reduce the amount of menstrual bleeding

5. Gonadotropin-releasing hormone agonists: if the women is infertile and wants pregnancy. In low doses it reduces blood loss and produces hypoestrogenic features.

6. Endometrial ablation (separation) to decrease or eliminate tissue sloughing.

7. Antiprogesterone: Mifepristone (Ru-186) to inhibit ovulation, induce amenorrhea and reduce myoma size.

8. Hysterectomy is done when abnormal uterine bleeding cannot be corrected by conservative treatment and the blood loss impairs the health of the patient.

PREMENSTRUAL SYNDROME

Premenstrual syndrome (PMS) is a cyclic cluster of behavioral, emotional and physical symptoms that occurs Just prior to menstruation that is in the luteal phase of the menstrual cycle. There is a cyclic appearance of large number of symptoms during the last 7-10 days of the menstrual cycle. The symptoms must be sufficiently severe and fulfill the following criteria before the diagnosis can be made:

- Not related to any organic lesion
- Occurs regularly during the luteal phase of each ovulatory menstrual cycle
- Symptom-free period during the rest of the cycle

Pathophysiology

The probable causes of the conditions are:

- Alteration in the level of estrogen and progesterone starting from the midluteal phase
- Neuroendocrine factors such as decreased synthesis of serotonin and withdrawal of endorphins (neurotransmitters) during the luteal phase
- Psychological and psychosocial factors producing behavioral changes.

Clinical Features

Related to Water Retention

- Abdominal bloating
- Breast tenderness
- Swelling of extremities
- Weight gain.

Neuroendocrine and Psychological Related

- Irritability, tearfulness
- Depression, anxiety Tension, mood swings
- Rejection sensitivity
- Insomnia/hypersomnia .
- Decreased concentration
- Forgetfulness confusion
- Restlessness Headache
- Increased appetite.
- Change in libido.

Autonomic Symptoms

- Nausea, anorexia
- Diarrhea
- Palpitation
- Perspiration.

Behavioral Symptoms

- Fatigue, decreased motivation
- Tiredness, social isolation
- Clumsiness, paresthesia (numbness or tingling).

Treatment

Treatment is aimed act alleviation of symptoms since PMS is not a disease. No single treatment may be effective. Drugs like tranquilizers, diuretics and antidepressants are used based on individual needs. Women are taught the following measures to reduce the intensity of symptoms:

Modify diet

- Increase exercise
- Alleviate stress
- Change activities of daily living
- Reduce fatigue
- Enhance ability to sleep.

Menstrual Cycle Disorders

Nursing assessment for menstrual conditions involves careful medical and gynecologic history, assessment of symptoms, and assessment for specific suspected condition. The physical assessment focuses on collection of data regarding the suspected menstrual cycle abnormality including collection of data from laboratory tests and special investigations.

MENORRHAGIA

Definition

Menorrhagia is an abnormally heavy and prolonged menstrual period at regular intervals. Normal menstrual cycle is 25-35 days in duration with bleeding lasting an average of 5 days and a total blood flow between 25 and 80 ml. A blood loss greater than 80 ml. or lasting longer than 7 days constitutes menorrhagia (also called hypermenorrhea).

Causes

Usually no causative abnormality can be identified and treatment is directed to the symptom rather than a specific mechanism. An overview of causes includes the following.

Uterine

- Endometrial polyp
- Submucosal fibroid
- Endometrial hyperplasia
- Endometrial adenomyosis.

Ovarian

- Ovulatory DUB
- Anovulatory DUB
- Polycystic ovary syndrome.
- Granulosa cell tumor of ovary.

Others

- Hematological causes
- von Willebrand's disease
- Hypothyroidism, hyperthyroidism
- Leukemia.

Diagnosis

- Pelvic and rectal examination
- Pap smear
- Pelvic ultrasound scan is the first line diagnostic study for identifying structural abnormalities .
- Endometrial biopsy to exclude atypical hyperplasia or endometrial cancer
- Hysteroscopy.

Treatment

Where underlying cause can be identified, treatment may be directed at this. Clearly heavy periods at menarche and menopause may settle spontaneously.

Medications

- Iron supplements to counter anemia
- Nonsteroidal anti-inflammatory drugs to reduce blood loss .
- Hormonal treatment for DUB:

1. Oral contraceptives, usually combined estrogen. progesterone pills for few months
2. Progesterone only pills or injection Depo-Provera
3. Progesterone releasing intrauterine system (IUS).

- Other options: Antifibrinolytics: Gonadotropin-releasing hormone agonists.

Surgery

Surgical treatment is rarely resorted to:

- Endometrial ablation
- Dilation and curettage
- Hysteroscopic myomectomy to remove fibroids.

POLYMENORRHEA

Polymenorrhea or epimenorrhea is defined as cyclic bleeding where the cycle is reduced to an arbitrary limit of less than 21 days and remain constant at that rate. If the frequent cycle is associated with excessive and/or prolonged bleeding, it is called epimenorrhea.

Causes

- Dysfunctional uterine bleeding
- Common in adolescence, preceding menopause and following delivery, and abortion; hyperstimulation of ovaries by the pituitary hormone may be the causative factor
- Ovarian hyperemia
- Seen in PID or ovarian endometriosis

Treatment

Hormone Therapy

Estrogen and progestogen are generally prescribed either separately or as combined oral pills. The preparations of progestogen used are norethisterone acetate and medroxyprogesterone acetate. Progestin alone therapy is highly effective in anovular DUB, while combined preparations of progestogen and estrogen are effective in ovular type. Norethisterone preparations (5 mg tablets) are used three times a day till bleeding stops, which is usually 3-7 days. Low-dose combined oral pills (estrogen and progestogen) used as cyclic therapy from 5th to 25th day for three cycles in ovular bleeding.

METRORRHAGIA

Metrorrhagia is defined as irregular, acyclic bleeding from the uterus. It is mostly related to surface lesions in the uterus. When the bleeding is so irregular and excessive that the menstruation (periods) cannot be identified, it is called menometrorrhagia

Causes

Acyclic Bleeding

- Dysfunctional uterine bleeding (during adolescence, following childbirth or abortion and preceding menopause)
- Submucous fibroid
- Uterine polyp
- Endometrial or cervical cancer.

Contact Bleeding

- Carcinoma cervix
- Mucous polyp of cervix
- Infections: Chlamydial
- Cervical endometriosis.

Intermenstrual Bleeding

- Urethral caruncle
- Intrauterine contraceptive device in utero
- Breakthrough bleeding in pill users
- Ovular bleeding.

Treatment

Treatment is directed to the underlying pathology.

OLIGOMENORRHEA

Oligomenorrhea is defined as bleeding occurring more than 35 days apart and which remains constant at that frequency.

Causes

- Age related: During adolescence and preceding menopause
- Obesity
- Vigorous exercise
- Endocrine disorders: Polycystic ovary syndrome (PCOS), hypoprolactinemia, hyperthyroidism
- Androgen producing tumors: Ovarian, adrenal
- Tuberculous endometritis.

Treatment

Treatment according to the cause identified.

HYPOMENORRHEA

Hypomenorrhea is defined as menstrual bleeding that is unduly scanty and lasts for less than 2 days.

Causes

- Uterine synechiae
- Endometrial tuberculosis
- Use of oral contraceptives
- Thyroid dysfunction
- Malnutrition
- Premenopausal period.

Treatment

Treatment is directed to the specific cause.

STUDY QUESTIONS

Short Notes

1. Polymenorrhea (epimenorrhea).

2. Oligomenorrhea.

3. Hypomenorrhea.

Short Answer Questions

1. Metrorrhagia.

2. Menorrhagia.

3. Premenstrual syndrome.

Essay Questions

1. Describe amenorrhea; primary and secondary types, and causes, symptoms and treatment for each.

2. Describe dysmenorrhea; primary and secondary types and causes, symptoms and treatment for each.

3. Explain DUB. Describe the causes, clinical manifestations, diagnosis and management of DUB.