Puerperium

It is a term refers to the six weeks period after completion of the third stage of labour.

Physiological Changes:

1- Uterine involution

It is the process by which the postpartum uterus weighing about 1kg returns to its pre-pregnancy state of less than 100gm.

Clinically the uterine fundus should lies 4cm below the umbilicus or 12cm above the symphyses pubis immediately after labour, and after (2) weeks the uterus should be no longer palpable above the symphyses. These changes occur because a process of autolysis where the muscle cells diminish in size but not in number, and it is accelerated by oxytocin,

Causes of delayed involution:-

- Full bladder
- Loaded rectum
- Uterine infection
- Retained products of conception.
- Fibroids
- Broods ligament hematoma.

2- Genital tract changes:-

The lower segment of the cervix and uterus appears flappy and sometimes have small lacerations. In the first few days the cervix can admit (2) fingers, by the end of first week passing only one finger, by the end of 2nd week the cervix should be closed.

3- ***Lochia:-***

It is blood stainedd uterine discharge compromised of blood and necrotic decidua.

It is red in the first few days, concerting to pink then after that becoming serous by the end of the 2nd week.

Persistently red lochia indicating delayed involution either due to infection or retained tissue. Offensive lochia indicating infection if associated with tender uterus and by pyrexia,

RX By antibiotics and evacuation of retained products.

4-Bladder function:-

Voiding difficulty and over distension are not uncommon after child birth specially if associated with regional aesthesia.

Risk Factors:-

1- Regional anaesthesia:-

Bladder may take up to 8hr.s to again normal sensation. so induelling catheter should be maintained for at least 12hr.s in pt.s with regional anasthesia to prevent bladder distension and detrusor overstretching.

2- Antidiuretic effect of high concentration of oxytocin.
3- Increased post-partum diuresis.
4- Increased fluid intake by breast feeding mothers.
5- Women with traumatic delivery such as instrumental delivery, multiple vulvovaginal lacerations vulvo-vaginal haematoma, prolapsed haamorriod, anal fissures, abdominal wound haemotomas or even fecal impaction may interfere with voiding.

Every women who has not passed urine within 4 hours of delivery should be encouraged to urinate before catheterization . women with difficulties in urination should have urine sample sent for microscopy culture and sensitivity and if the residual urine $> 300m)$ a catheter should be left in to allow free drainage for 48 hr.s.

5- ***Bowel function*:-**

Constipation is common problem during puerperium. So advice about adequate fluid intake and fibre intake is necessary. prolapsed hachorroid, anal fissure sutured perineum, women with third or fourth degree tear should avoid constipation and straining. So should be prescribed lactulose or methyl cellulose for (2) weeks immediately after the repair.

6-Normal emotional and psychological changes

The 'pinks': for the first 24–48 hours following delivery, it is very common for women to experience an elevation of mood, a feeling of excitement, some

overactivity and difficulty sleeping.

The 'blues': as many as 80% of women may experience the 'postnatal blues' in the first 2 weeks after delivery. Fatigue, short temper, difficulty sleeping, depressed mood and tearfulness are common but usually mild, and resolve spontaneously in the majority of cases.

Puerperal disorders:-

Daily maternal observation include temperature, pulse, blood pressure, urinary and bowel functions, breast examination and feeding, assessment of uterine involution, lochia, perineal inspection, examination of legs and pelvic floor exercises, hemoglobin checking of day (3) and a level of 8gm or less is an indication for transfusion.

1- **Perineal complications:**

About 80% of women complain of pain in the first (3) days after delivery. Which is more in patients with perineal tears or episiotomy local cooling, topical aneasthesia diclofenac ,paracetol are usually helpful.

Spontaneous opening of repaired perineal treas and episiotomies is usually the result of secondary infection, the treatment is with wound irrigation twice daily, and healing with secondary intention. Large gaping wound should be sutured with secondary repair only after infection has cleared.

2- **Bowel and bladder dysfunction**

3-2° PPH:-

Defined as fresh bleeding from the genital tract between 24hr.s and 12 weeks after delivery. Most common cause is retained placental tissue. Other causes are endometeritis, hormonal contraception ,bleeding disorders VWD and rarely choriocarcinoma.

Mgx include intravenous infusion, crossmatched blood, syntocinon ,examination under aneasthesia, antibiotics if placental tissue is found, and evacuation of the uterus.

4- **Obstetric palsy:-**

A condition in which one or both lower limbs may develop signs of a motor or sensory neuropathy following delivery.

Peroneal n. palsy can occur when the nerve is compressed between the head of the fibula and the lithotomy pole unilateral foot drop.

RX is by bed rest with afirm board beneath the mattress, analgesia and physiotherapy.

5- **Symphysis Pubis diastasis:-**

It is separation of sym.Pub either spontaneously or by delibrate surgical seperation (symphysiotomy).

Risk factors are forcepes delivery, rapid second stage of labour severe abduction of the thighs during delivery.

RX bed rest, antinflamatory agents, physiotherapy and a pelvic corset to provide support and stability.

6- **Thromboembolism:-**

The risk increase to 5 flods in pregnancy and puerperium. Majority of deaths are after C\S.

7-Puerperal Pyrexia:-

A temperature of 38C° or higher on any two of the first 10 d.s post-pertum, exclusive of throat, breasts, urinary tract, pelvic organs, cesarean or perineal wounds and legs.

-Chest complications**,** atelactasis, and aspiration pneumonia.

-Genital tract infection**:-**

It is referred to as **puerperal sepsis**, it is oetiology:-

Following delivery natural barriers to infection are temporarily removed and therefore arganisms with pathogenic potential can ascend from the lower genital tract into the uterine cavity. Placental separation exposes a large raw area equivalent to an open wound and retained products and clots can provide an excellent culture media for infection, in addition if there is any lacerations in the genital tract.

Factors which determine the clinical coarse are virulence of offending organisms, presence of haematoma or retained products ,timing of antibiotic therapy and associated risk factors.

Risk factors are:-

- Antenatal I.U. infection.
- Cervical circlage.
- Prolonged ROM.
- Prolonged labour.multiple vaginal examinations.
- Instrumental delivery.
- Manual removal of placenta.
- Retained products of conception.
- Others like obesity, DM. HIV.

Methods of spread of infection are:-

1- Ascending infection, from lower genital tract, or infection of placental site via fallopian tubes to the ovaries, ⟶

salpingo -opteritis ⟶ peritonitis ⟶ pelvic abcess.

2- By contiguity directly into the myometrium and perametrium ⟶ meteritis and parametritis pelvic cellulitis ⟶ peritonitis and pelvic abcess.
3- By lymphafics and blood vessels:-
By uterine vessels into the IVC or via ovarian vessels ⟶ septic thrombo phlebitis, or septicaemia.

Symptoms of puerperal pelvic infection:-

Malaise, headache, fever, rigor abdominal discomfort, vomiting diarrhea, offensive lochia and 2° PPh. pelvic thrombophlebitis cherecterised by spiking fever for 7-10 days despise antibiotic therapy.

Signs:-

Pyrexia and tachycardia, boggy tender large uterus, infected wounds, peritonism, paralytic ileus, indurated adnexae.

Investigation:-

Full blood count, urea and electrolytes, high vaginal swab, pelvic U\S, clotting screen 7 and arterial blood gas, blood culture.

Treatment:-

It is with broad spectrum antibiotics e.g. co- amaxiclav or cephalosporine, plus metronidazole, the anibiotics should be continued for at least 48 hr.s after the pt. becoming

afebrile, Major pathogen resistant to this RX is Bacteroides fragilis, which is sensitive to clindamycin with either aminoglycosides or penicillin. If pelvic thrombophlebitis is suspected or clinically diagnosed heparin should be instituted and may continue for weeks or months according to which pelvic vein is involved.

Necrotising fasciitis:

It is a rare but fatal infection of skin muscle and fascia, can originate in perineal areas, episiotomies and C\S wound. Commonest organism is unaerobes, Clostridia perfnrgens.

It needs wide debridement of necrotic tissues under GA. Skin graft may be needed. In addition to mgx of septic shock if developed.

Prevention of puerperal Sepsis:-

1- General hyegine and a septic surgical approach.
2- Prophylactic antibiotics during emergency C\S with a single intra-operative antibiotic dose before clamping of cord.
3- Prophylaxes of elective C\S is recommended in units with background of infectious morbidity.

Diagnosis and management of puerperal pyrexia للاطلاع

Symptoms	Diagnosis	Special investigation	management
Cough	Chest infection	Sputum M.C and S	Physiotherapy
Purulent sputum	Pneumonia	Chest x.ray	Antibiotics

Sore throat	Tonsillitis	Throat swab	Antibiotics
Cervical lymphadenopathy			
Headaches	Meningitis	Lumbar puncture	Antibiotics
Neck stiffness (epidural/spinal anesthetic)			
Dysuria	Pyelonephritis	Urine M.c and s	Antibiotics
Loin pain and tenderness			
Secondary PPH	Metritis	Pelvic ultrasound	Antibiotics
Tender bulky uterus	Retained placental		Uterine tissue
Pelvic/calfpain/ Tenderness	Deep vein thrombosis	Doppler/venogram of legs	Heparin
Chest pain	Pulmonary embolism	Chest x-ray and blood gases	Lung perfusion scan angiogram
Painful engorged breasts	Mastitis Abscess	Milk c and s	Express milk Antibiotics Incision and drainage
VI, c and s. microscopy, culture and sensitivity; PPH. postpartum haemorrhage.			

Breasts Disorders:-

-Blood stained nipple discharge:-

It is bilateral due of epi. Proliferation. Usually occur in the 2nd or 3rd trimester, It is self-limited, needing just reassurance.

-Painful nipples:-

It is due to nipple fissuring or denuded covered epithelium, either d.t poor positioning or candidiasis.

RX with nipple rest, manual milk experession and then reint-roduce feeding gradually.

Galactocele:-

It is cretention cyst of the memmary duct. Usually resolves spondeheausely, if not aspertion.

Breast engorgerment:-

Usually begins by the 2nd or 3rd postpartum day and may give rise to puerperal fever of up to 39C°.

RX by allowing the baby easy access to the breast with manual expression, firm support, ice bag and breast pump.

Mastitis:-

It is either d.t infection or duct obstruction. The affected segment of the breast appear red. Painful and edematous. Flue like symptoms develop associated with a tacthycardia and pyrexia. It is usually present in the third or fourth post-partum week and is usually unilat. The most common arganism is S. aureus other like coagulase negative staph and strepto coccus veridens.

Mgx include isolation of the mother and baby ceasing B.F from affected breast, expression of milk manually and sending a milk for culture and sensitivity. Flucloxacillin can be commenced while awaiting sensitivity results. If breast abcess develop drainage ~~under G~~.A.