NORMAL AND ABNORMALITIES OF PUERPERIUM

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DEFINITION:
Puerperium is the period following child birth during which body tissues specially the pelvic organs revert back approximately to the pre-pregnant state both anatomically and physiologically.

DURATION: 6 weeks
Immediate – within 24hrs
Early – upto 7 days
Remote – upto 6 weeks
Involution IS the process where by the genital organs revert back approximately to the state as they where before pregnancy.

ANATOMICAL

UTERUS: firm and retracted with alternate hardening and softening

LOWER UTERINE SEGMENT: thin, flabby, collapsed structure becomes normal after delivery

CERVIX: contracts slowly, ext.os admits two fingers later narrow to admit two fingers.
MUSCLES:
- Reduction in the myometrial cell size
- Withdrawal of steroid hormones

BLOOD VESSELS:
- Arteries are constricted by contraction of its wall and thickening of intima by thrombosis
- New blood vessels grow inside the thrombi
- Hyaline degeneration of tissue wall

ENDOMETRIUM:
- ET becomes 2 – 5 mm
- Regeneration occurs from the epithelium of the uterine glands

VAGINA:
- Regains tone but never to the virginal state
- Introitus remains larger
- Hymen is lacerated
PELVIC FLOOR AND PELVIC FASCIA take a longer time to involute from the stretching effect during parturition.

... - It is the vaginal discharge for the first fortnight during puerperium. The discharge originate from the uterine body, cervix and vagina.

LOCHIA RUBRA(RED) 1 - 4 days consists of blood, shreds of foetal membrane and decidua, vernix caseosa, lanugo and meconium.

LOCHIA SEROSA(YELLOWISH OR PINK OR PALE BROWNISH): 5 to 9 days consists of less RBC, but more leucocytes, wound exudate, mucous from the cervix and micro organism

LOCHIA ALBA(PALE WHITE): 10 - 15 days contains plenty of decidual cells, leucocytes, mucous cholestrin crystals, fatty and granular epithelial cells and micro organisms.

Amount: 250ml (first 5-6 days)
CLINICAL IMPORTANCE

- **ODOUR:** if offensive indicates infection
- **AMOUNT:** if excessive - indicates infection
- **COLOUR:** red colour signifies sub involution or retained products
- **DURATION:** beyond three weeks suggest local genital lesion

**GENERAL PHYSIOLOGICAL CHANGES**

- **PULSE:** raised
- **TEMPERATURE:** not more than 99 degree F
- **URINARY TRACT:** bladder wall becomes edematous and hyperemic
  - dilated ureter and renal pelvis
- **GIT:** increases thirst due to loss of fluid
  - intestinal paresis leads to constipation
- **WEIGHT LOSS:** about 2 kg
- **FLUID LOSS:** 2 litres first week, 3.5 litres next 5 weeks
- **BLOOD VALUES:** decreased blood volume due to dehydration and blood loss
  - increased fibrinogen level
  - leucocytosis 30,000/cu.mm
MENSTRUATION AND OVULATION

NONLACTATING

menstruation returns by 6th week in 40% and by 12th week in 80% of the cases

increased prolactin level, decrease FSH, hypo estrogenic stage, no menstruation

SUPPRESSION OF LH – no LH surge – an ovulation.

- Preparation of breast (mamogenesis)
- Synthesis and secretion from the breast alveoli (lactogenesis)
- Ejection of milk (galactokinesis)
- Maintenance of lactation (galactopoiesis)
MANAGEMENT
¾ REST AND AMBULANCE
¾ HOSPITAL STAY
¾ DIET
¾ CARE OF THE BLADDER
¾ CARE OF THE BOWEL AND SLEEP
¾ SLEEP
¾ CARE OF THE VULVA AND EPISIOTOMY WOUND
¾ CARE OF THE BREAST
¾ ANTIBIOTIC
¾ IMMUNISATION
¾ ANALGESICS
¾ CORRECTION OF ANEMIA
¾ CORRECTION OF HT DM
¾ POSTPARTUM EXERCISE
¾ CONTRACEPTION
DEFINITION: A rise of temperature of 100.4 degree F or more on 2 separate occasions at 24 hours apart (excluding first 24 hrs) within first 10 days following delivery.

CAUSES:
- Puerperal sepsis
- UTI
- Mastitis
- Septic pelvic thrombophlebitis
- Infection of cesarean section wound

Infection of genital tract which occurs as a complication of delivery.

Predisposing factors:
- Anemia + malnutrition
- PROM
- Prolonged rupture of membranes > 18 hrs
- Retained bits of placental tissue
- Antepartum + postpartum hemorrhage
MICRO ORGANISMS

Aerobic - group A + group B streptococcus hemolyticus
Anaerobic - streptococcus, bacteroides/clostridia

SITES OF INFECTION

- perinium
- vagina
- cervix
- uterus (endometritis)

CLINICAL FEATURES

1. Local infection (wound infection)
2. Uterine infection (offensive lochia)
3. Spreading infection (extra uterine spread)

- pelvic peritonitis
- parametritis
- pelvic abscess
- High vaginal + endocervical swab for c/s
- Clean catch midstream specimen of urine
- Hb%, TC, DC
- Blood c/s
- USG pelvis
- CT & MRI
- X-ray chest
- Blood urea + electrolytes

- Intravenous fluid management
- Anemia to be corrected
- Indwelling catheter
- TPR/ I/o chart
1. Gentamycin (2mg/kg IV loading dose followed by 8th hourly)
2. Ampicillin 1g IV 6th hourly
3. IV Cefotaxime 1g 1-1-1
4. Metronidazole 0.5g IV to control anaerobic group
3 & 4 8th hourly used as an alternative

When the involution is impaired or retracted

- Grand multiparity
- Cesarean section
- Prolopopse of uterus
- Retroversion after the uterus becomes pelvic organ
- Uterine fibroid
1. Retained products of conception
2. Uterine sepsis (endometriosis)

- Antibiotics
- Exploration of uterus
- Ergometrine to enhance involution process.
Organisms: E.coli
- klebsiella
- proteus
- staphylococcus

TREATMENT
1. Indwelling catheter
2. Antiseptic for 5 – 7 days

BREAST COMPLICATIONS
1. Breast engorgement
2. Cracked and retracted nipple
3. Mastitis & breast abscess
4. Lactation failure
BREAST ENGORGEMENT

CAUSE
- exaggerated normal venous and lymphatic engorgement of breasts.

TREATMENT
1. Tight breast binder
3. Analgesics
4. Regular feed by baby at frequent intervals.
Painful due to

- Loss of surface epithelium with the formation of a raw area on nipple
- Due to a fissure at the tip or base of nipple.

TREATMENT

- Fresh human milk and saliva
- Purified lanonin
- Miconazole lotion
- Nipple shield

Manual expression of milk can be done to initiate lactation especially met in primigravida.
ACUTE MASTITIS

RISK FACTORS
- Poor nursing and cracked nipple
- Staph aureus, epidermidis and streptococci.

SYMPTOMS
1. Fever (102 degree F or more)
2. Pain and tender swelling in one quadrant of breast

SIGNS
1. Presence of wedge shaped swelling with its apex at the nipple
2. Overlying skin is red/hot and flushed and feel tense and tender
- Analgesics
- Antibiotics
- Milk flow is maintained by breast feeding the infant.

1. Flushed breasts not responding to antibiotics
2. Brawny edema
3. Tenderness with fluctuation
4. Swinging temperature.

1. Incision and drainage ↓GA
2. Serial percutaneous needle aspiration
   ↓ ultrasound guidance
LACTATION FAILURE TREATMENT

metaclopramide 10mg 1-1-1 daily

PUERPERAL VENOUS THROMBOSIS AND PULMONARY EMBOLISM

1. Rise in coagulation factors I, II, VII, VIII, IX, X, XIII
2. Venous stasis is increased due to compression of gravid uterus causes damage to endothelial cells.

RISK FACTORS:
- Advanced age
- Operative delivery
- Heart disease
- Trauma to the venous wall
Homan’s sign → pain in the calf on dorsiflexion of foot may be present

- Duplex doppler ultrasound to detect changes in the velocity of blood flow in femoral vein
- Real time USG can detect intramural thrombosis
- Venography
1) Prevention of trauma, sepsis and anemia
2) Use of elastic compression stocking
3) Leg exercise and early ambulation

1) Low molecular weight Heparin – safe in pregnancy
2) Bed rest with foot end raised above the heart level
3) Appropriate antibiotics
4) Anticoagulants - Heparin 15,000 units IV followed by 10,000 units 4-6th hourly
   - Ecosprin 40mg daily
   - Warfarin may be used
OBSTETRIC PALSIES

- postpartam traumatic neuritis
- foot drop due to peroneal nerve palsy (L4 L5 S1 S2)
- due to streching of lumbosacral trunk by prolapsed intervertebral disc between L5 and S1

MANAGEMENT

1 bed rest

2 splint is applied to prevent damage of over stretched paralysed muscle
1. PPH
2. shock
3. postpartum eclampsia
4. pulmonary embolism
5. postpartum cardiomyopathy
6. postpartum hemolytic uremic syndrome

- 4 to 6 months after delivery
- fluoxetine (serotonin uptake inhibitors)
Within 4 days of delivery
Treatment:
- Chlorpromazine 150mg TDS
- Sublingual estradiol 1mg TDS
- Lithium in manic depression psychosis
THANK YOU