Puerperium & POSTPARTUM CARE

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Puerperium

- Define the normal Puerperium.
- Discuss the features of normal Puerperium.
- Explain the physiological changes during Puerperium.
- Discuss the management of normal Puerperium.

Puerperium

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

Puerperium

- DURATION :- Puerperium begins as soon as placenta is expelled . Lasts for approximately 6 weeks.
- The period is divided into :
- Immediate within 24 hrs
- Early up-to 7 days
- Remote up-to 6 weeks

ANATOMICAL AND PHYSIOLOGICAL CHANGES OF THE PUERPERIUM ANATOMICAL CONSIDERATION

- Uterus: the crude weight of pregnant uterus is 1 kg at term , while the weight of non-gravid uterus is 50-100 gram
- From clinical perspective the uterine fundus is no longer palpable abdominally by 10 days , and by 6 weeks the uterus return to its normal size .
- Immediately after delivery uterus is hard , reduced in size and fundus is generally felt about 10-12cm above the symphysis pubis.

ANATOMICAL AND PHYSIOLOGICAL CHANGES OF THE PUERPERIUM ANATOMICAL CONSIDERATION

- INVOLUTION OF UTERUS :-It is process whereby the genital organs revert back approximately to the state as they were before pregnancy.
- An arrest or delay of involution is called subinvolution.
- The causes of subinvolution include retained placental fragments and pelvic infection.

ANATOMICAL AND PHYSIOLOGICAL CHANGES OF THE PUERPERIUM ANATOMICAL CONSIDERATION

- CLINICAL FEATURE OF SUBINVOLUTION
- Prolongation of lochial discharge and irregular , excessive uterine bleeding.
- On examination uterus is larger and softer for the period of Puerperium

ANATOMICAL AND PHYSIOLOGICAL CHANGES OF THE PUERPERIUM ANATOMICAL CONSIDERATION

- UTERINE ATONY :- Failure of the uterus to remain firmly contracted ,can lead to postpartum haemorrhage.
- Common causes of PPH are ;

T ---tone

T ---TISSUE

T ---TRAUMA

ANATOMICAL AND PHYSIOLOGICAL CHANGES OF THE PUERPERIUM ANATOMICAL CONSIDERATION

- CERVIX:- Lower Uterine segment and cervix remains loose ,thin and stretched.
- Immediately after birth ,the cervix is extremely soft , flabby
- It looks congested , contracts slowly and at the end of the first week narrows down to admit the tip of finger.
- External OS never revert to nulli parous state

INVOLUTION OF OTHER PELVIC STRUCTURE

- VAGINA
- Takes a long time (4-8 weeks) to involute .
- It regains its tone but never to the virginal state .
- Rugae partially re appear at third week .
- The introitus remains permanently larger than the virginal state

LOCHIA

- Immediately after birth , bleeding lasts for hours then rapidly diminishes to a red-brown discharge .
- It is the vaginal discharge for the first fortnight during Puerperium. The discharge originates from the uterine body,cervix and vagina.
- Depending upon colour

lochia rubra

lochia serosa

lochia alba

LOCHIA RUBRA:

- It is red in color as it contains blood shreds of fetal membrane ,decidua,vernix caseosa, and meconium.
- It starts immediately after the delivery and continues for the 3-4 days

LOCHIA SEROSA:

- it is pale and is serous and pink in coloure . It contain less RBC's but more leukocytes, wound exudates, decidual tissues and mucus from the cervix.
- It last for 5-9 days.

LOCHIA ALBA:

- It starts about the 10th post partum day till 6 weeks. It is pale creamy white and contains leukocytes, decidual cells & mucus.

URINARY TRACT

- the bladder may be over distended without any desire to pass urine..
- Dilated ureters and renal pelvis return to normal size within 6-8 weeks.

Bowel

- Soon after delivery ,there is some degree of intestinal paresis which predisposes to constipation.
- Early ambulation , a high fibre diet and increase in intake of fluids generally help to overcome this problem

GASTROINTESTINAL TRACT

- Increased thirst in early Puerperium is due to loss of fluid during labour.
- Constipation is a common problem for the following reasons : delayed GI motility ,together with perineal discomfort or trauma .

BREAST

- The secretion from the breast is thick ,sticky and yellowish in colour for the initial 2-3 days ,is called colostrums

- Colostrum, a yellowish fluid containing more minerals and protein and immunologic component(IgA) but less sugar and fat than mature breast milk and having a laxative effect on the infant, is secreted for the first 2 days postpartum.
- Mature milk secretion is usually present by the third postpartum day but may be present earlier if a woman breast- feeds immediately after delivery.
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OTHER PHYSIOLOGICAL CHANGES

- TEMPERATURE :- The temperature should not be above 37.2 ˚ with the first 24 hrs. On the 3rd day ,there may be slight rise if temperature due to breast engorgement which should not last for more than 24 hrs

OTHER PHYSIOLOGICAL CHANGES

	Early puerperium	Late puerperium
Heart rate Stroke volume Cardiac output	Falls :14% by 48 h Rises over 48 h Remains elevated the falls over 48 h	Normal by 2 week Normal by 2 week Normal by 2 week
Blood pressure Plasma volume	Rises over 4 days Initial increase then falls	Normal by 6 week Progressive decline in first week
Fibrinogen Clotting factor Platelet count	Rises in 1st week Most remain elevated Falls then rises	Normal by 6 week Normal by 3 week Normal by 6 week

Thyroid

- Thyroid volume increase by 15-30 % during pregnancy and return to normal over 12 weeks .
- T4 & T3 return to normal within 4 weeks after birth

Hair loss

- Hair growth slows in puerperium and women will often experience hair loss .
- This is a transient phenomenon , but it may takes between 6 month and one year to return to normal .
- The low level of circulating estrogen is the aetiology of this phenomenon and so it is more common in breastfeeding mothers .

WEIGHT LOSS:-

- In addition to the weight loss (5-6 kg) as a consequence of the expulsion of the foetus ,placenta, liquor and blood loss .The weight loss may continue upto 6 months after delivery.

ABDOMINAL WALL

- The abdominal striae are never eradicated completely but they do change to fine, silvery white lines.
- Women who take exercise regain their abdominal muscle tone. However regaining complete muscle tone becomes difficult with increasing parity

MENSTRUATION AND OVULATION

- In non-lactating women , ovulation may occur as early as 27 days after birth , although the mean time is approximately 70-75 day .
- with breastfeeding , the mean time of ovulation is 3-6 months .
- The risk of ovulation within the first 6 months in women exclusively breastfeeding is between 1-5%
- Menstruation resume by 12 weeks after birth in 70% who are not lactating and the mean time is 7-9 weeks .

Management

- The morbidity associated with puerperium is underestimated .
- 1)continuity of care : an ideal pattern of care is one offer continuity from antenatal period through childbirth to puerperium .
- 2)mother infant bonding . It is now well established that mothers and their partner should be able to hold and touch their babies as soon as possible .
- 3)emotional and physical support (hospital staff , midwives m gp and her partner .

Routine observation

- During hospitalization : regular checks of : HR , temperature , BP , fundal height , lochia and any other complaints .
- The perineum should be inspected daily if there has been any trauma or episiotomy . Or other wound checked for signs of infection .
- It is important that urinary output is satisfactory and that the bladder being emptied completely .

- These observation are necessary to give the earliest warning of any possible complication .

Ambulation

- It is now established that early mobilization after childbirth is extremely important .
- Once the mother has recovered from the physical stress of her labor , she should be encouraged to mobilize as soon as possible
- Exercise to the abdominal and pelvic floor muscles are most valuable in restoring normal tone .

Complication thrombosis and embolism

- Pulmonary embolism is still the major cause of death in the puerperium .
- All pregnant women should be assessed for venous thromboembolism during pregnancy and after birth to assess her risk .
- Inspect legs for signs of thromboembolism, and assess Homan’s sign.

Postpartum blue/depression

- Many women may experience temporary mood swings during this period because of the discomfort, fatigue, and exhaustion after labor and delivery and because of hormonal changes after delivery(decrease of Estrogen).
- Some mothers may experience “postpartum blues” at about the third postpartum day and exhibit irritability, poor appetite, insomnia, tearfulness, or crying.
- This is a temporary situation. Severe or prolonged depression is usually a sign of a more serious condition

Contributing factors of postpartum blue/depression

- Difficult of Coping with:
- The physical changes and discomforts of the puerperum, including a need to regain their prepregnancy figure.
- Changing family relationships and meeting the needs of family members, including the infant.
- Fatigue emotional stress, feelings of isolation, and being “tied down.”
- A lack of time for personal needs and interests

Postpartum pyrexia

- Defined as temperature higher than 38 c on at least two occasions at least 4 hours apart after the first 24 hours postpartum
- Causes :
- URI
- Genital tract infection (endometritis , infected episotomy)
- Mastitis , breast engorgement
- Wound infection following CS
- DVT
- Other : chest infection , viral infection , atelectasis , pelvic abcess

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- Any type of infection may lead to sepsis
- Systemic inflammatory response (any two)

-confusion ,

- sustained HR more than 90 bpm

-RR more than 20 breath/min

-tem. More than 38.3 or less than 36 c

Immediate administration of antibiotics is LIFE SAVING .

Severe sepsis

- Sytolic BP less than 90 mmhg
- HR more than 130 bpm
- O2 sat less than 91%
- RR more than 25

Postpartum Endometritis

- Postpartum infection of the uterus, the most common cause of puerperal sepsis
- Cesarean delivery, particularly after labour or rupture of the membranes of any duration, is the most accurate predictor of postpartum endometritis (PPE)
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- The pathogenesis of this infection involves inoculation of the amniotic fluid after membrane rupture or during labour with vaginal microorganisms. The myometrium, leaves of the broad ligament, and the peritoneal cavity are then exposed to this contaminated fluid during cesarean surgery.
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- The reported incidence of PPE after cesarean delivery is less than

Risk factor

- prolonged labor
- rupture of the membranes
- presence of bacterial vaginosis
- frequent vaginal examinations
- use of internal fetal monitoring

- Clinical symptoms :
- Temperature elevation › 38° on 2-5th day following delivery.
- Chills.
- Abdominal pain.
- Foul-smelling, pus-containing lochia.
- Headache.

- Antimicrobial prophylaxis is associated with a 50% reduction in infection in all populations studied. All patients undergoing cesarean delivery, either elective or emergent, are candidates for antibiotic prophylaxis. When given before the skin incision rather than after cord clamping, the incidence of postcesarean infectious morbidities are decreased, without adversely affecting neonatal outcome.

- PPE is a polymicrobial infection caused by a wide variety of bacteria:

- Group B streptococci, enterococci, other aerobic streptococci, G.vaginalis, E. coli, Bacteroides spp., and are the most common endometrial isolates, with group B streptococci and G. vaginalis the most common isolates from the blood.

- Clindamycin plus gentamicin has proved to be the most effective regimen in treating PPE, especially if PPE occurs after cesarean delivery.

Urinary retention

- Is one of the commonest complication following delivery , especially if there has been trauma to the urethra .
- A painful episiotomy may make it worse .
- Following epidural , there may be temporary interruption of the normal sensory stimuli for bladder function .
- Tx: you may consider indwelling cath. For 48 h

MANAGEMENT OF NORMAL PUERPERIUM

- 1)Immediate care- After about 2 hrs of observation following delivery, the patient is examined before shifting her to room or ward.
- 2)Hospital stay- All patient's with perineal stitches preferably be hospitalized for 2 - 4 days to ensure satisfactory healing &to protect her against infection.

may discharged her :

- VD 24-48 h , cs 24-96 h if :

VSS , amount of lochia is appropriate , adequate UOP , pain is controlled , appropriate anti d has been administered .

MANAGEMENT OF NORMAL PUERPERIUM

- 3)Diet- encourage the patient to drink lots of fluids &to take simple easy to digest diet.
- 4)Sleep- it is important to ensure adequate rest and sleep .it is good restrict visiting hours .

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- 5)Care of the bladder- The patient is encouraged to pass urine following delivery,if fails then catheterization should be considered .
- 6)Care of perineum - Perineal wound should receive proper attention to promote healing & prevent infection.
- Perineal wound should be kept clean & dry.

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- 7)Well baby care- care of the baby should be explained and direct her to the pediatrician.
- 8)Contraception- couples should be provided with necessary information & counseled to adopt the method of their choice.

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- 9) Medication :All medication prescribed to the mother must be consulted as many of these drugs may pass through breast milk to new born baby & can be harmful..

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- 10)Advice on discharge- Thorough examination of the mother and child is to be taken before discharge
- Gradual return to normal activity at home. Care of the newborn & breast feeding . Iron and vitamin supplements to improve mother's health.
- For regular follow up

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- Health and nutrition education
- Family planning advise Sexual intercourse can be resumed till to 6 weeks after delivery
- Breast feeding is best
- Immunization of child
- Role of post natal exercises

Breast feeding benefits

For newborn	For mother
Ecxellent nutrition matched need Secretory igA (passive immunity to baby) Decrease the rate/severity of meningitis , bacteremia ,diarrhea , NEC , otitis media uti , and late-onset sepsis 21% reduced in infant mortality Reduce incidence of eczema and environmental allergies	Support early bonding Oxytocin release . Decrease life time risk of ovarian and breast cancer Lower coast Facilitate pregnancy spacing

Breast feeding

- Should be encouraged as soon as possible after delivery .
- Contraindication :

  - infant with galactosemia

  -active HIV

  -maternal active , untreated TB

  -active untreated varicella & active herpes leasion on the breast

  - mothers who receiving radioactive therapy

THANK YOU

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