long cases

In

Obstetrics and Gynaecology

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M-48

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CONTENTS

PROM

Particulars of the patient:

Name: Mrs. Nurunnahar

Age: 28 years

Occupation: Housewife

Religion: Islam

Address: Brahmopalli, Mymensingh

Date and Time of Admission:

Date and time examination:

Bed No.:

Ward No.:

Reg. No.:

C/C:

1. Pregnancy / Amenorrhoea for 36 weeks
2. Watery vaginal discharge for 22 hours

History of Present illness:

According to statement of the patient she is pregnant/amenorrhoeic for about 36 weeks. She had regular/no antenatal check up and her antenatal period was uneventful. But she noticed watery vaginal discharge for about 22 hours which is spontaneous/during cough, profuse/ moderate, colorless, not foul smelling, fetal movement is good. She has no history of trauma and she doesn't have any pain, fever, foul smelling vaginal discharge. Her bowel habit is normal. She has no burning sensation of micturition, increased frequency or urgency of micturition.

Obstetric History:

Married for:

Para:

Gravida:

Age of last child:

Obstetric chart:

Sl N0	Pregnancy				Labour			Puerperium	Baby			
	Year of deliverey	Duration	ANC	Normal/ Complication	Place	Mode	Normal/ complication	N/C	Sex	Status	Feeding	Immunization

Menstrual History:

Age of Menarche: 13 years

MP/MC: 5 / 28 (±2) days

Menstrual flow: Average

1st day of LMP:

EDD:

Contraceptive history:

Practiced: Condom

Last use: Before …(Date)

History of past illness: She has no history of

-DM

-HTN

-Rhematic heart disease

- Renal disease

- Thyroid disorder

- Any Chronic illness.

Drug History: She had taken calcium and iron tablet irregularly, couldn't mention the dose and duration

Family History:

- No other member of her family suffered from suck kind of illness
- No other member of her family suffered from HTN, DM. TB asthma.

Personal History: Non, Smoker, non-alcholic

Immunization History: She gas got TT vaccine in full dose.

Socio-economic history: Middle class

GENERAL EXAMINATION:

Appearance: Normal

Body built: Average

Co-Operation: Co-Operative

Nutritional status: Average

Anaemia: +

Jaundice: Absent

Skin condition: Normal

Oedema: Absent

Cyanosis: Absent

Pulse: 80/min

BP: 120/80 min

RR: 16/ min

Temperature: 99^0F

Dehydration:-

Oedema: -

Breast examination: Not done

Thyroid gland: Not enlarged

SYSTEMIC EXAMINATIONS:

Per-abdomen:

Inspection:

- ✓ Abdomen is distended, umbilicus is centrally placed
- ✓ Skin of abdomen is tensed
- ✓ Stria gravidarum, linea nigra present

Palpation:

Symphysiofundal height: 36 weeks which corresponds to gestational age.

Fundal grip: Broad, soft, irregular breech.

Lateral grip: Irregular knob like limbs on right side and smooth, curved, resistant lack on its left side.

Pelvic grip:

- ✓ Rounded smooth, hard, ballotable head
- ✓ No engaged

Auscultation: Foetal heart rate 140/min and regular

Pelvic examination: Not done

Other system examination: NAD

Salient feature:

Mrs. Nurunnahar, 28 years of age primi gravida, muslim housewife, normotensive, non-diabetic, non-smoker, non-alcoholic hailing from Brahmopolli, Mymensingh admitted to MMCH with the complaints of she is pregnant/amenorrhoiec for 36 weeks and suddenly she developed watery per vaginal discharge for 22 hours which is spontaneous/during cough. Fetal movement is good. She had no history of trauma, she doesn't have any pain, fever or foul smelling vaginal discharge. On general examination, she is mildly anaemic, pulse 80/min, BP 120/80 mm of Hg, RR 16/min, temperature 99^0F, no dehydration, no ankle oedema. No history of any bowel-bladder abnormality. On examination, per abdomen SFH is 36 weeks, presentation is vertex with Occipito-posterior position, head is not engaged. Pelvic examination not done and other system examination reveals no abnormality.

Provisional diagnosis: Primigravida 36 weeks pregnancy with premature rupture of membrane (PROM).

Differential diagnoses:

- ✓ **Hydrorrhoea gravidarum:** Periodic watery discharge form excessive decidual glandular secretion.
- ✓ **UTI/ Incontinence of urine:** In later months of pregnancy.

Investigations:

1. TC, DC, ESR, Hb%
2. CRP
3. Blood grouping and Rh typing
4. Urine RME
5. High vaginal swab for C/S
6. USG of pregnancy profile

Confirmatory diagnosis: Primi gravida 36 weeks pregnancy premature rupture of membrane (PROM).

Treatment:

A. Expectant: If

- ✓ Pre-term
- ✓ No evidence of chonioamnionitis

1. Hospitallzation
2. Use sterile vulval pad
3. **Antibiotic:**

- Erythromycin 250 mg TDS for 7 day

- Amoxicillin 500mg TDS for 7 days

3. **Steroids:**

Betamethasone: 12mg IM, 2 doses, 12 hurly

or, **Dexamethasone:** 6 mg IM, 4 doses, 6 hourly.

4. **Monitoring:**

Maternal sign of choniommniontis:

- ✓ Fever
- ✓ Pulse: tachycardia in chorioamnionitis
- ✓ Uterine tenderness
- ✓ Foul smelling pen vaginal discharge

Fetal growth and well being:

- ✓ FHS
- ✓ SFH
- ✓ Colour of liquour
- ✓ CTG : Reactive . non-peactive Cardiotocography
- ✓ USG: growth and BPP. Biophysical profile

B. Active management : if

- ✓ Term > 37 weeks
- ✓ Chorloamnionitis
- ✓ Fetal distress
- ✓ Fetal death
- ✓ Fetal abnormality

1. **Prophylactic antibiotic**

2. **Consider transfer** to facility with NICU if possible

3. **Induction of labour:** If vaginal delivery feasible

4. **C/S:** If

- ✓ Fetal distress
- ✓ Failed induction
- ✓ Ursatisfactory progess of labour
- ✓ Previous C/S or malpresentation

CROSS QUESTIONS

What is your case?

Primigravida 36 weeks pregnancy with premature rupture of membrane (PROM).

What are the D/Ds?

- ✓ Hydrorrhoea gravidarum
- ✓ UTI/ Incontinence of urine

How will you diagnose a case of PROM?

See Management

Tell me the treatment of PROM.

See Management

How will you assess that the patient is developing chorioamnionitis?

Maternal sign of choniommniontis:

- ✓ Fever
- ✓ Pulse: tachycardia in chorioamnionitis
- ✓ Uterine tenderness
- ✓ Foul smelling pen vaginal discharge

How will you manage a case of chorioamnionitis?

Termination of pregnancy irrespective of gestational age.

PREMATURE RUPTURE OF MEMBRANES/ PRELABOR RUPTURE OF THE MEMBRANES (PROM)

Definition:

Spontaneous rupture of the membranes any time beyond 28th week of pregnancy but before the onset of labor is called prelabor rupture of the membranes (PROM).

[DC Dutta-7th-317]

Types: 2 types-

1. **Term PROM:** When rupture of membranes occur beyond 37th week but before the onset of labor

2. **Preterm PROM:** When it occurs before 37 completed weeks

[DC Dutta-7th-317]

Prolonged rupture of membranes:

Rupture of membranes for > 24 hours before delivery is called **prolonged rupture of membranes**.

[DC Dutta-7th-317]

What is the pathophysiology of PROM?

- ✓ Fetal membrane is composed of amnion and chorion bound togethet by different layers of extracellular matrix.
- ✓ Matrix is key factor for maintaining elasticity and tensile strength of fetal membrane. So, any factor that weakens the matrix increases the risk of PROM.
- ✓ Any mechanical factor that causes the distension of membrane is also responsible for PROM.

Causes: In majority, the causes are not known. **The possible causes are:**

1. Increased friability of the membranes
2. Decreased tensile strength of the membranes
3. Polyhydramnios
4. Cervical incompetence
5. Multiple pregnancy
6. Infection—Chorioamnionitis,
7. urinary tract infection and lower genital tract infection
8. Cervical length < 2.5 cm
9. Prior preterm labor;
10. Low BMI (< 19 kg/m2)

[DC Dutta-7th-317]

Management:

Symptom:

Escape of watery discharge per vaginam either in the form of a gush or slow leak.

On examination:

Speculum examination: With aseptic precautions to inspect the liquor escaping out through the cervix

D/Ds:

1. **Hydrorrhea gravidarum**: A state where periodic watery discharge occurs probably due to excessive decidual glandular secretion
2. **Incontinence of urine:** Specially in the later months.

Investigations:

1. TC, DC, ESR, Hb%

2. CRP
3. Blood grouping and Rh typing
4. Urine RME
5. High vaginal swab for C/S
6. USG of pregnancy profile
7. **Detection of pH** by litmus or Nitrazine paper:
    - ✓ The pH becomes 6–6.2
    - ✓ Nitrazine paper turns from yellow to blue at pH > 6
    - ✓ Normal vaginal pH during pregnancy is 4.5–5.5 whereas that of liquor amnii is 7-7.5
8. **Ferning test: Characteristic ferning pattern** when a smeared slide is examined under microscope.
9. **Ultrasonography of pregnancy profile**

Treatment:

A. Expectant: If

- ✓ Pre-term
- ✓ No evidence of chonioamnionitis

1. Hospitallzation
2. Use sterile vulval pad
3. **Antibiotic:** Prophylactic antibiotics are given to minimize maternal and perinatal risks of infection.

   - Erythromycin 250 mg TDS for 7 day

   - Amoxicillin 500mg TDS for 7 days

4. **Steroids:**

✓ To stimulate surfactant synthesis against RDS in preterm neonates is controversial as such PROM alone may accelerate fetal lung maturation.

✓ However, combined use of antibiotics and corticosteroids has reduced the risks of neonatal RD

Betamethasone: 12mg IM, 2 doses, 12 hurly

or, **Dexamethasone:** 6 mg IM, 4 doses, 6 hourly.

5. **Monitoring:**

Maternal sign of choniommniontis:

- ✓ Fever
- ✓ Pulse: tachycardia in chorioamnionitis
- ✓ Uterine tenderness
- ✓ Foul smelling pen vaginal discharge

Fetal growth and well being:

- ✓ FHS
- ✓ SFH
- ✓ Colour of liquour
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B. Active management : if

- ✓ Term > 37 weeks
- ✓ Chorloamnionitis
- ✓ Fetal distress
- ✓ Fetal death
- ✓ Fetal abnormality

1. **Prophylactic antibiotic**

2. **Consider transfer** to facility with NICU if possible

3. **Induction of labour:** If vaginal delivery feasible

4. **C/S:** If

- ✓ Fetal distress
- ✓ Failed induction
- ✓ Ursatisfactory progess of labour
- ✓ Previous C/S or malpresentation

[DC Dutta-7th-317+OGSB protocol]

Dangers/complications: The implications are less serious when the rupture occurs near term than earlier in pregnancy.

1. **Preterm labor and prematurity**
2. **Chorioamnionitis and fetal infection:** Chance of ascending infection is more if labor fails to start within 24 hours.
3. **Cord prolapse:** Specially when associated with malpresentation
4. **Dry labor:** Continuous escape of liquor for long duration may lead to dry labor
5. **Placental abruption**
6. **Fetal pulmonary hypoplasia:** Specially in preterm PROM is a real threat when associated with oligohydramnios
7. **Neonatal sepsis, RDS, IVH and NEC:** in preterm PROM
8. **Perinatal morbidities (cerebral palsy):** High risk

[DC Dutta-7th-317]

PRE-ECLAMPSIA

Particulars of the patient:

Name: Mahiya Mahi

Age: 26 years

Occupation: Housewife

Religion: Islam

Address: Gouripur, Mymenshing.

Ward no: 5/2

Bed no: 06

Date and time of admission: 01.05.17

Date and time of examination: 03.05.17

C/C:

1. Pregnant / Amenorrhoa for 34 weeks
2. Swelling over the ankle for 20 days.

H/O Present illness:

According to statement of the patient, she is pregnant/ amenorrhoiec for 34 weeks. She had regular ANC and she had normal blood pressure and was no protein in urine in her early visits. But for last 20 days she has noticed swelling over the ankles which persists on rising from bed. Then she consulted a doctor and the doctor found high BP and advised her to admit in hospital. Her foetal movement is good. She also no headache, blurring of vision, epigastric pain or vomiting. Her bowel and bladder habit is normal.

Obstetric History:

Married for:

Para:

Gravida:

Age of last child:

Obstetric chart:

Sl N0	Pregnancy				Labour			Puerperium	Baby			
	Year of deliverey	Duration	ANC	Normal/ Complication	Place	Mode	Normal/ complication	N/C	Sex	Status	Feeding	Immunization

Menstrual History:

Age of Menarche: 13 years

MP/MC: 6/ 28 (±2) days

Menstrual flow: Average

1st day of LMP:

EDD:

Contraceptive history:

Practiced: Condom

Last use: Before …(Date)

History of past illness: She has no history of

-DM

-HTN

-Rhematic heart disease

- Renal disease

- Thyroid disorder

- Any Chronic illness.

Drug History: She had taken calcium and iron tablet irregularly, couldn't mention the dose and duration

Family History:

- No other member of her family suffered from suck kind of illness
- No other member of her family suffered from HTN, DM. TB asthma.

Personal History: Non, Smoker, non-alcholic

Immunization History: She gas got TT vaccine in full dose.

Socio-economic history: Middle class

GENERAL EXAMINATION:

Appearance: Normal

Body built: Average

Co-Operation: Co-Operative

Nutritional status: Average

Anaemia: +

Jaundice: Absent

Skin condition: Normal

Oedema: Moderate

Cyanosis: Absent

Pulse: 80/min

BP: 150/100 min

RR: 16/ min

Temperature: 99^0F

Dehydration:-

Oedema: -

Breast examination: Not done

Thyroid gland: Not enlarged

SYSTEMIC EXAMINATIONS:

Per-abdomen:

Inspection:

- ✓ Abdomen is distendes, umbillcus is centrally placed
- ✓ Skin of abdomen is tensed
- ✓ Stria gravidarum, linea nigra present

Palpation:

Symphysiofundal height: 36 weeks which corresponds to gestational age.

Fundal grip: Broad, soft, irregular breech.

Lateral grip: Irregular knob like limbs on right side and smooth, curved, resistant lack on its left side.

Pelvic grip:

- ✓ Rounded smooth, hard, ballotable head
- ✓ No engaged

Auscultation: Foetal heart rate 140/min and regular

Pelvic examination: Not done

Other system examination: NAD

Salient feature:

Mrs. Mahiya Mahi, 28 years of age primi gravida, muslim housewife, non-diabetic, non-smoker, non-alcoholic hailing from Gouripur, Mymensingh admitted to MMCH with the complaints of she is

pregnant/amenorrhoiec for 34 weeks and swelling of for 20 days. Her urine output is normal and has no headache, blurring of vision, epigastric pain or vomiting.

On general examination, she is mildly anaemic, pulse 80/min, BP 150/100 mm of Hg, RR 16/min, temperature 99^0F, no dehydration, moderate oedema. No bowel abnormality. On examination, per abdomen SFH is 34 weeks, presentation is vertex with Occipito-posterior position, head is not engaged. Pelvic examination not done and other system examination reveals no abnormality.

Provisional diagnosis: Primigravide 34 weeks pregnancy with pre-eclampsia.

D/D: Gestational hypertension

Investigations:

1. CBC (Hb%, platelet count)
2. Blood grouping and Rh typing
3. RBS
4. S. urea, creatinine
5. **Hepatic enzymes:** S. AST, ALT, LDH
6. **Coagulation profile:** Serum fibrinogen level, PT and APTT
7. Bedside heat coagulation test
8. Urine RME
9. USG of pregnancy profile

Treatment:

1. **Hospitalization**
2. **Rest**: In left-lateral position as much as possible to lessen the effects of vena caval compression.
3. **Diet:**
   - ✓ Adequate amount of daily protein (about 100 gm).
   - ✓ Usual salt intake is permitted.
   - ✓ Fluids need not be restricted.
   - ✓ Total calorie approximate 1600 cal/day.
4. **Antihypertensives:**
   - ✓ **Methyl-dopa:** Central and peripheral anti-adrenergic action
   - ✓ **Labetalol:** Adrenoceptor antagonist (α and β blockers)
   - ✓ **Hydralazine:** Vascular smooth muscle relaxant
   - ✓ **Nifedipine:** Calcium channel blocker
5. **Diuretics**: **Frusemide**
   - ✓ Should not be used injudiciously [May harm to the baby by diminishing placental perfusion and by electrolyte imbalance]

- ✓ **Compelling reasons for its use:**
  - ➢ Cardiac failure
  - ➢ Pulmonary edema
  - ➢ Along with selective antihypertensive drug therapy (diazoxide group) where blood pressure reduction is associated with fluid retention
  - ➢ Massive edema, not relieved by rest and producing discomfort to the patient.

6. **Sedation:** Tab. Phenobarbitone 30mg
7. **Obstetric management:**

Depends on:

1. Severity of pre-eclampsia
2. Duration of pregnancy,
3. Response to treatment
4. Condition of the cervix

A. If maternal condition & response to treatment are satisfactory: Continue pregnancy upto term and termination to be done accordingly

B. If maternal condition & response to treatment aren't satisfactory: Terminate pregnancy irrespective of gestational age.

Methods of Delivery:

1. Induction of labor
2. Cesarean section

[Dutta's obstetrics-7th-227-28+Lecture of MMC]

How will you take care of the patient during peuerperium?

1. Close observation for at least 48 hours
2. Anti-HTN should be continued until DBP<100 mm of Hg
3. Patient should be in hospital till BP is brought down to safe level and proteinuria disappears.

Mention few important hematological abnormalities of the patient.

- ✓ Thrombocytopenia (platelet count is < 100000/mm3)
- ✓ Hemolysis
- ✓ Hemoconcentration
- ✓ DIC

What is the basic pathology of this clinical problem?

Endothelial dysfunction and vasospasm.

What is HELLP syndrome?

HELLP is an acronym for a syndrome of hemolysis, elevated liver enzymes and low platelet count. It is considered as the severe variety of pre-eclampsia.

H = Hemolysis (abnormal peripheral blood smear)
EL = Elevated liver enzymes (SGOT > 121 U/l; LDH >600 U/l)
LP = Low platelet count (< 100,000/mm3)

This is a rare complication of pre-eclampsia (10–15%) thoughbmay develop even without maternal hypertension.

Signs/symptoms:

- ✓ Nausea
- ✓ Vomiting
- ✓ Epigastric or right upper quadrant pain
- ✓ **Sudden hypotension:** Due to hemoperitoneum caused by liver rupture.

Investigations:

1. **Elevation in hepatic enzymes:** Parenchymal necrosis of liver causes
   - ✓ AST and ALT >70 IU/L
   - ✓ LDH >600 IU/L)
   - ✓ Bilirubin >1.2 mg/dL
2. **CT scanning:** Subcapsular hematoma formation
3. Abnormal peripheral blood smear.

Management: Principles of management are same as that of pre-eclampsia and eclampsia.

[Dutta's obstetrics-7th-222]

Is there any risk of recurrence of pre-eclampsia in subsequent pregnancy?

Yes. Risk of recurrence in next pregnancy is about 2 5%.

PRE-ECLAMPSIA

Definition:

Pre-eclampsia is a multisystem disorder of unknown etiology characterized by development of hypertension to the extent of 140/90 mm Hg or more with proteinuria after the 20th week in a previously normotensive and nonproteinuric woman.

[Dutta's obstetrics-7th-219]

Causes of preeclamptic features before the 20th week:

1. Hydatidiform mole
2. Acute polyhydramnios

[Dutta's obstetrics-7th-219]

Risk factors for pre-eclampsia:

1. **Primigravida**: Young or elderly (first time exposure to chorionic villi)

2. **Family history**: Hypertension, pre-eclampsia
3. **Placental abnormalities**:
    - ✓ Hyperplacentosis: Excessive exposure to chorionic villi e.g. in molar pregnancy twins, diabetes
    - ✓ Placental ischemia
4. **Obesity**: BMI >35 kg/M2, Insulin resistance.
5. **Pre-existing vascular disease**
6. **New paternity**.
7. **Thrombophilias:**
    - ✓ Antiphospholipid syndrome
    - ✓ Protein C, S deficiency
    - ✓ Factor V Leiden

[Dutta's obstetrics-7th-220]

Clinical types: Clinical classification is dependent on the level of BP for management purpose. Proteinuria is more significant than blood pressure to predict fetal outcome.

2 types-

1. **Mild:**
    - ✓ Sustained rise of BP of more than 140/90 mm Hg but less than 160 mm Hg systolic **or**
    - ✓ 110 mm Hg diastolic without significant proteinuria.
2. **Severe:**
    a. A persistent systolic blood pressure of >160 mm Hg or diastolic pressure of >110 mm Hg.
    b. Protein excretion of >5 gm/24 hr.
    c. Oliguria (<400 ml/24 hr).
    d. Platelet count < 100,000/mm3.
    e. HELLP syndrome.
    f. Cerebral or visual disturbances.
    g. Persistent severe epigastric pain.
    h. Retinal hemorrhages, exudates or papilledema
    i. Intrauterine growth restriction of the fetus.
    j. Pulmonary edema.

    From the prognostic point of view, a diastolic rise of blood pressure is more important than the systolic rise.

[Dutta's obstetrics-7th-224]

Management:

History:

- ✓ **Primigravidae** (70%).

- ✓ **Obstetrical–medical complications:** More often associated with. Such as-
  - ➢ Multiple pregnancy
  - ➢ Polyhydramnios
  - ➢ Pre-existing hypertension, diabetes etc.
- ✓ **Clinical manifestations:** Usually after the 20th week, usually insidious onset, rarely rapid course.

Symptoms:

Mild symptoms:

Edema:

- ✓ Slight swelling over the ankles which persists on rising from the bed in morning or tightness of ring on the finger.
- ✓ May extend gradually to the face, abdominal wall, vulva and even the whole body.

Alarming symptoms: ***(severe pre-eclampsia)***

1. **Headache:** Either located over the occipital or frontal region
2. **Disturbed sleep**
3. **Diminished urinary output**: Urinary output of less than 400 ml in 24 hours is very ominous
4. **Epigastric pain**:
   - ✓ Acute pain in the epigastric region
   - ✓ **Associated with vomiting**: At times coffee color, is due to hemorrhagic gastritis or due to subcapsular hemorrhage in the liver,

5. **Eye symptoms**: Due to spasm of retinal vessels (retinal infarction), occipital lobe damage (vasogenic edema) or retinal detachment.
   - ✓ Blurring
   - ✓ Scotomata
   - ✓ Dimness of vision, at times complete blindness.

[Vision is usually regained within 4–6 weeks following delivery. Reattachment of the retina occurs following subsidence of edema and normalization of blood pressure after delivery.

Signs:
General examination:

1. **Abnormal weight gain:** More than 5 lb in a month or more than 1 lb a week in later months of pregnancy is significant.
2. **Rise of BP**: The diastolic pressure usually tends to rise first followed by the systolic pressure.


3. Edema:

- ✓ Visible edema over the ankles on rising from the bed in the morning is pathological.
- ✓ Sudden and generalized edema may indicate imminent eclampsia.

Systemic examination:

1. **Abdominal examination:** May reveal evidences of chronic placental insufficiency, such as scanty liquor or growth retardation of the fetus.
2. **CVS and renal:** No manifestation of chronic cardiovascular or renal pathology.
3. **Respiratory system:**
   Pulmonary edema: Due to leaky capillaries and low oncotic pressure.

   Investigations:
   1. CBC
   2. Blood grouping & Rh typing
   3. Serum creatinin and Blood urea
   4. Serum electrolytes
   5. SGPT, Billirubin
   6. Urine for protein
   7. Bedside clotting test
   8. **USG** of pregnancy profile

[Dutta's obstetrics-7th-224-25+Lecture of MMC]

Treatment:

8. **Hospitalization**
9. **Rest**: In left-lateral position as much as possible to lessen the effects of vena caval compression.
10. **Diet:**

- ✓ Adequate amount of daily protein (about 100 gm).
- ✓ Usual salt intake is permitted.
- ✓ Fluids need not be restricted.
- ✓ Total calorie approximate 1600 cal/day.

11. Antihypertensives:

- ✓ **Methyl-dopa:** Central and peripheral anti-adrenergic action
- ✓ **Labetalol:** Adrenoceptor antagonist (α and β blockers)
- ✓ **Hydralazine:** Vascular smooth muscle relaxant
- ✓ **Nifedipine:** Calcium channel blocker

12. Diuretics: **Frusemide**

- ✓ Should not be used injudiciously [May harm to the baby by diminishing placental perfusion and by electrolyte imbalance]
- ✓ **Compelling reasons for its use:**
  - ➢ Cardiac failure
  - ➢ Pulmonary edema
  - ➢ Along with selective antihypertensive drug therapy (diazoxide group) where blood pressure reduction is associated with fluid retention
  - ➢ Massive edema, not relieved by rest and producing discomfort to the patient.

13. Sedation: Tab. Phenobarbitone 30mg

14. Obstetric management:

Depends on:

5. Severity of pre-eclampsia
6. Duration of pregnancy,
7. Response to treatment
8. Condition of the cervix

C. If maternal condition & response to treatment are satisfactory: Continue pregnancy upto term and termination to be done accordingly

D. If maternal condition & response to treatment aren't satisfactory: Terminate pregnancy irrespective of gestational age.

Methods of Delivery:

3. Induction of labor
4. Cesarean section

[Dutta's obstetrics-7th-227-28+Lecture of MMC]

Complications of pre-eclampsia:

A. Immediate:

1. Maternal:

During pregnancy:

- ✓ **Eclampsia** (2%) — more in acute than in subacute cases
- ✓ Accidental hemorrhage
- ✓ Oliguria and anuria
- ✓ Dimness of vision and even blindness
- ✓ Preterm labor
- ✓ HELLP syndrome
- ✓ Cerebral hemorrhage
- ✓ Acute respiratory distress syndrome (ARDS)

During labor:

- ✓ **Eclampsia**
- ✓ PPH: May be related with coagulation failure

Puerperium:

- ✓ **Eclampsia:** Usually within 48 hours
- ✓ **Shock:** Puerperal vasomotor collapse is associated with reduced concentration of sodium and chloride due to sudden fall in corticosteroid level
- ✓ **Sepsis:** Due to increased incidence of induction, operative interference, and low vitality.

2. **Fetal:**
   - ✓ **Intrauterine death:** Due to spasm of uteroplacental circulation leading to accidental hemorrhage or acute red infarction
   - ✓ **IUGR:** Due to chronic placental insufficiency,
   - ✓ Asphyxia
   - ✓ **Prematurity:** Either due to spontaneous preterm onset of labor or due to preterm induction.

B. Remote:

- ✓ **Residual hypertension**
- ✓ **Recurrent pre-eclampsia:** 25% chance of pre-eclampsia to recur in subsequent pregnancies.
- ✓ **Chronic renal disease:** High incidence of GN in women with pre-eclampsia remote from term.
- ✓ **Risk of placental abruption:** 5–20 percent

[Dutta's obstetrics-7th-226]

Monitoring:

Maternal:

1. **Daily clinical evaluation for any symptoms:** e.g.

- ✓ Headache
- ✓ Epigastric pain
- ✓ Visual disturbances
- ✓ Oliguria

2. **Blood pressure:** at least four times a day.
3. **State of edema and daily weight record.**
4. **Fluid intake and urinary output.**
5. **Urine examination:** For protein daily and if present, to estimate its amount in 24 hours urine
6. **Blood:** For hematocrit, platelet count, uric acid, creatinine and liver function tests at least once a week.

Fetal:

1. Foetal movement
2. SFH
3. Size of baby
4. Liquor volume
5. Fetal heart rate recording 6 hourly
6. Daily non stress test
7. Weekly biophysical profile, umbilical artery Doppler and AFI

[Dutta's obstetrics-7th-228+Lecture of MMC]

What are the benefits of rest?

- ✓ Increases the renal blood flow → diuresis
- ✓ Increases the uterine blood flow → improves the placental perfusion
- ✓ Reduces the blood pressure.

ACUTE FULMINANT PRE-ECLAMPSIA/PREECLAMPTIC STATE

Symptoms:

1. Headache
2. Disturbed sleep
3. Diminished urinary output
4. Persistent epigastric pain
5. **Eye symptoms**:
   - ✓ Blurring
   - ✓ Scotomata
   - ✓ Dimness of vision, at times complete blindness.
6. HELLP syndrome
7. Oliguria: Urine volume < 400 ml in 24 hours

Signs:

- ✓ **BP**: Level of blood pressure systolic > 160 mmHg and/or diastolic > 110 mmHg.
- ✓ **Pulmonary edema**

Investigations:

1. **CBC: Low platelet count** (< 100,000/mm3)
2. Blood grouping & Rh typing
3. Serum creatinin and Blood urea
4. Serum electrolytes
5. SGPT, Billirubin
6. **Urine for protein: Massive proteinuria**
7. Bedside clotting test
8. **USG of pregnancy profile: IUGR**

[Dutta's obstetrics-7th-224-25+Lecture of MMC]

Treatment: *Same as eclampsia*

ECLAMPSIA

Derived from a Greek word, meaning "like a flash of lightening".

Definition:

Pre-eclampsia when complicated with generalized tonic–clonic convulsions and/or coma is called eclampsia.

[Dutta's obstetrics-7th-230]

Cause Of Convulsion: Not clear. The irritation may be provoked by:

1. **Anoxia:** spasm of the cerebral vessels → increased cerebral vascular resistance → fall in cerebral oxygen consumption → anoxia
2. **Cerebral edema:** May contribute to irritation
3. **Cerebral dysrhythmia:** Increases following anoxia or edema. There is excessive release of excitatory neurotransmitters (glutamate).

[Dutta's obstetrics-7th-231]

Onset of fits: Fits occur more commonly in the third trimester (more than 50%).

1. **Antepartum** (50%)
2. **Intrapartum** (30%)
3. **Postpartum** (20%): Fits occurring beyond 48 hours but less than 4 weeks after delivery is accepted as late **postpartum eclampsia**.

[Dutta's obstetrics-7th-231-32]

Management of eclampsia:

Clinical features:

A. **Convulsing, or H/o convulsion** (single or more): Consist of four stages.
   1. **Premonitory stage:** Lasts for about 30 seconds.
      - ✓ Patient becomes unconscious.
      - ✓ Twitching of the muscles of the face, tongue, and limbs.
      - ✓ Eyeballs roll or are turned to one side and become fixed

   2. **Tonic stage:** Lasts for about 30 seconds.
      - ✓ **Whole body goes into a tonic spasm:** Trunk-opisthotonus, limbs are flexed and hands clenched.
      - ✓ **Respiration:** Ceases
      - ✓ **Cyanosis:** Appears
      - ✓ **Tongue:** Protrudes between the teeth.
      - ✓ **Eyeballs:** Become fixed.
   3. **Clonic stage:** Lasts for 1–4 minutes.
      - ✓ All voluntary muscles undergo alternate contraction and relaxation.
      - ✓ **Twitchings:** Start in the face then involve one side of the extremities and ultimately the whole body is involved in the convulsion.
      - ✓ Biting of the tongue
      - ✓ Breathing is stertorous and blood stained frothy secretions fill the mouth
      - ✓ **Cyanosis:** Gradually disappears.
   4. **Stage of coma:**
      - ✓ Following the fit, the patient passes on to the stage of coma.
      - ✓ It may last for a brief period or in others deep coma persists till another convulsion.
      - ✓ On occasion, the patient appears to be in a confused state following the fit and fails to remember the happenings.
      - ✓ Rarely, the coma occurs without prior convulsion.

   When it occurs in quick succession, it is called status eclampticus.

B. **Reduced urinary output**
C. Bleeding tendency
D. **Temperature:** usually rises
E. **Pulse and respiration rates:** Increased
F. **Blood pressure:** greater than > 140/90 mmHg
G. **Hyperflexia, colonus**

DDs:

1. Epilepsy

2. Hysteria
3. Encephalitis
4. Meningitis
5. Puerperal cerebral thrombosis
6. Poisoning
7. Cerebral malaria in tropics
8. Intracranial tumors

Investigation:

1. CBC
2. Blood grouping & Rh typing
3. Serum urea, S creatinin
4. Serum electrolytes
5. SGPT, Billirubin
6. Urine for protein
7. Bedside clotting test

Treatment:

A. General:

1. **If unconscious or convulsing:** SHOUT FOR HELP
2. **Check ABC**
3. **If breathing:** Oxygen @ 4-6 L per minute
4. **If not breathing:** Assisted ventilation using an Ambu bag & mask & give oxygen @4-6 L per minute by ambu bag or endotracheal tube
5. **If convulsing/ unconscious:** Position her to left side (eclamptic position)
6. Protect her from injries, but do not attempt to restrain her and never leave the women alone and provide constant supervison
7. IV access
8. **IV fliuid:** Normal saline/Hartman's solution
9. Continuous catheterization
10. Strict fluid balance, maintain intake output chart
11. **Maintaeannce of nutrition:** IV fluid 24 hours after delivery
    - ✓ If unconscious:- give Ryle's tube feeding - 250 ml fluid 2 hrly,
    - ✓ If conscious: give oral feeding
12. **Antibiotics:** Inj. Ampicillin 500 mg IM/IV 6 hourly / Amoxycilin - 8 hourly
13. Care of the eye, skin and maintain oral hygiene
14. **Monitoring:**
    - ✓ Pulse
    - ✓ BP
    - ✓ Respiration (>16/min)

- ✓ Reflexes
- ✓ FHR
- ✓ Urine output
- ✓ Auscultate lung bases

B. Specific Management:

1. **Prevention / Control of convulsion: Magnesium Sulpahte (1amp=2.5mg/5ml)**
2. **Contol of BP:** Diastolic Presure>110mmHg)
   - ✓ Labetalol
   - ✓ Hydralazine
3. **Obstetric Management:** Conduction of delviery within 6-8 hrs

A. Vaginal delivery:

- ✓ Cervix favourable
- ✓ ARM & oxytocin Augmentation
- ✓ Avoid prolonged 2nd stage
- ✓ May use forceps/VE

B. LUCS:

- ✓ Obstetric reason
- ✓ Unfavourable cervix
- ✓ Malpresentation;
- ✓ Foetal distress
- ✓ No progress of labour
- ✓ Expected induction delivery
- ✓ interval more than 6 hours
- ✓ Uncontroll fits & hypertension

[Dutta's obstetrics-7th-232-3+OGSB Protocol-47-49]

Mg.Sulphate therapy:

Loading dose:

- ✓ Mg.Sulphate 4g (8ml) in 12 ml dist. Water = **20 ml.**
- ✓ Slow IV Injection over 10-15 minutes

Or,

Mg. Sulphate (6g=12ml) I.M 3gm + 3 gm Deep IM injection 3g in each buttock

Maintenance dose:

- ✓ Mg.Sulphate (2.5g=5ml)
- ✓ Deep IM injection 2.5g every 4 hourly using alternate buttock.
- ✓ Continue for 24 hrs after last convulsion or delivery

[OGSB Protocol-48-49]

Checklist for maintenance dose of Mg.Sulphate:

Check if

- ✓ Urine output > 30 ml per hour
- ✓ Respiratory rate > 16
- ✓ Patellar reflexes present.

[OGSB Protocol-48-49]

MgSo4 toxicity:

- ✓ RR < 16/min
- ✓ urine out put < 30 ml/hr
- ✓ absent patellar reflex

Rx:

- ✓ Omit next doses of MgSo4
- ✓ Inj. Clacium gluconate 1 gm (10 ml) sllow IV
- ✓ Assist ventilation if needed

[OGSB Protocol-48-49]

What will you do if convulsion recur after 30 minutes of loading dose?

Add 2.5 gm of Inj. MgSo4 in 5 ml DW(20% solution) push IV over 5 minutes

What will you do if MgSo4 not available /contraindicated?

I will provide Diazepam therapy

How MgSo4 acts?

- ✓ Competitive inhibition to calcium ion either at the motor end plate at the cell membrane reducing calcium influx
- ✓ Decreases acetylcholine release and its sensitivity at the motor end plate.
- ✓ Direct depressant action on the uterine muscle

Indications of MgSo4:

1. Eclampsia
2. Preterm labour- As a tocolytic
3. Episiotomy wound: To reduce oedema
4. As laxative, cervical dilator

Side effects: MgSO4 **is relatively safe.**

Common maternal side-effects:

1. Flushing

2. Perspiration
3. Headache
   Muscle weakness
4. Pulmonary edema (Rarely)

Neonatal sideeffects:

1. Lethargy
2. Hypotonia
3. Rarely respiratory depression.

Contraindication:

1. Myasthenia gravis
2. Impaired renal function

[Dutta's obstetrics-7th-508]

Diazepam therapy: If MgSo4 not available /contraindicated

Loading dose:

- ✓ 10 mg IV slow over 2 min
- ✓ If convulsion recur repeat 10 mg IV slowly

Maintenance dose:

- ✓ Inj. Diazepam 40 mg in 500 ml NS in IV drip.
- ✓ Rate adjusted so that patient remains sedated but arousable. Do not use >100mg/24 hrs

[OGSB Protocol-48-49]

Points to the diagnosis of eclampsia:.

- ✓ Absence of previous history of convulsion
- ✓ Presence of edema, hypertension and proteinuria along with fits or coma during pregnancy or soon after

Regimes of anti-HTN:

A. Labetalol regime:

1. **IV Bolus regime:** ***(Most important, you can remember this only)***
   - ✓ Inj. Labetalol 1 amp (50 mg/10 ml)
   - ✓ Take Inj. Labetalol 20 mg (4 ml) slow IV.
   - ✓ Followed by 40-80 mg (8-10 ml) every 15 minutes
   - ✓ Continue until DBP is 90 mmHg.
   - ✓ Maximum dose 300 mg
2. **IV infusion regime:**

- ✓ 250 mg in 250 ml of NS @ 20mg/hr double every 30 min (20mg/hr = 6 dpm / 24 mdp m)
- ✓ Continue until DBP is 90 mmHg or maximum dose 160mg/hour is reached
- ✓ Check BP every 5-15 minutes interval
- ✓ Stop drip when DBP is 90 mmHg

B. Hydralazine regime:

1. IV Bolus Regime:

- ✓ Inj.Hydralazine, 1 amp (20mg) disolved in 10 ml distilled water
- ✓ Push 2.5-5 ml (5-10mg) Slow IV repeated 1 ml (2mg) every 15 minutes untill DBP is 90 mmgH

2. IV infusion regime:

- ✓ Inj. Hydralazine (1 amp 20 mg) dissolved in 200 ml NS
- ✓ Give IV infusion @ 8-10 dpm
- ✓ Check BP every 5 min -15 min interval
- ✓ Stop drip when DBP is 90 mmHg

[OGSB Protocol-48-49]

Maternal complications of eclampsia:

1. **Injuries:**
   - ✓ Tongue bite
   - ✓ Injuries due to fall from bed
   - ✓ Bed sore.
2. **Pulmonary complications:**
   - ✓ Edema: Due to leaky blood capillaries
   - ✓ Pneumonia: due to aspiration, hypostatic or infective
   - ✓ Adult respiratory distress syndrome
   - ✓ Embolism
3. Hyperpyrexia
4. **Cardiac:** Acute left ventricular failure
5. Renal failure
6. **Hepatic:**
   - ✓ Necrosis
   - ✓ Subcapsular hematoma
7. **Cerebral:** Edema (vasogenic), hemorrhage
8. Neurological deficits
9. **Disturbed vision:** Due to retinal detachment or occipital lobe ischemia.
10. **Hematological:**
    - ✓ Thrombocytopenia
    - ✓ Disseminated intravascular Coagulopathy
11. **Postpartum:**
    - ✓ Shock

- ✓ Sepsis
- ✓ Psychosis

[Dutta's obstetrics-7th-233]

Fetal: High perinatal mortality:

Causes:

- ✓ **Prematurity**: Spontaneous or induced
- ✓ **Intrauterine asphyxia:** Due to placental insufficiency arising out of infarction, retroplacental hemorrhage and spasm of uteroplacental vasculature
- ✓ **Effects of the drugs:** Used to control convulsions
- ✓ **Trauma:** During operative delivery.

[Dutta's obstetrics-7th-233]

Causes of maternal deaths:

1. Cardiac failure
2. Pulmonary edema
3. Aspiration and/or septic pneumonia
4. Cerebral hemorrhage
5. Acute renal failure
6. Cardiopulmonary arrest
7. Adult respiratory distress syndrome (ARDS)
8. Pulmonary embolism
9. Postpartum shock
10. Puerperal sepsis

[Dutta's obstetrics-7th-233]

GESTATIONAL HYPERTENSION

Definition:

A sustained rise of blood pressure to 140/90 mm Hg or more on at least two occasions 4 or more hours apart beyond the 20th week of pregnancy or during the first 24 hours after delivery in a previously normotensive woman is called gestational hypertension.

Criteria:

1. Absence of any evidences for the underlying cause of hypertension
2. Unassociated with other evidences of pre-eclampsia (edema or proteinuria)
3. Majority of cases are > 37 weeks pregnancy
4. Not associated with hemoconcentration, thrombocytopenia, raised serum uric acid level or hepatic dysfunction
5. The blood pressure should come down to normal within 6 weeks following delivery.

[Dutta's obstetrics-7th-237]

Categorization hypertensive disorders of pregnancy:

Eclampsia: BP > 140/90 and convulsion

Severe PE:

DBP > 110 mmHg with 2 + proteinuria
OR
DBP > 90 mmHg
With severe headache/ blurring of vission/ epigastric pain /vomiting
Proteinuria 2 + or more

Mild PE: DBP <110 mmHg without symptom proteinuria 1 +

Gestational hypertension: BP> 140/90 without proteinuria

[OGSB Protocol-48-49]

Order of manifestations of pre-eclampsia:

Rapid gain in weight → visible edema and/or hypertension → proteinuria.

[Dutta's obstetrics-7th-225]

POST-DATED PREGNANCY

Particulars of the patient:

Name: Mrs. Aliya Bhatt

Age: 28 years

Occupation: Housewife

Religion: Islam

Address: Brahmopalli, Mymensingh

Date and Time of Admission:

Date and time examination:

Bed No.:

Ward No.:

Reg. No.:

C/C:

1. Pregnancy / Amenorrhea for 42 weeks
2. Backache for last two weeks.

H/O Present illness:

According to statement of the patient, she is pregnancy amenorrhoeic for 42 weeks. She had her regular antenatal check up and pregnancy was uneventful. She is suffering for mild low backache for last two weeks. Her fetal movement is good. As labour pain has not started yet, she is advised by her doctor for hospital admission.

Obstetric history:

Married for:

Para:

Gravida:

Age of last child:

Obstetric chart:

Sl N0	Pregnancy				Labour			Puerperium	Baby			
	Year of deliverey	Duration	ANC	Normal/ Complication	Place	Mode	Normal/ complication	N/C	Sex	Status	Feeding	Immunization

Menstrual History:

Age of Menarche: 13 years

MP/MC: 5/ 28 (±2) days

Menstrual flow: Average

1st day of LMP:

EDD:

Contraceptive history:

Practiced: Condom

Last use: Before …(Date)

History of past illness: She has no history of

-DM

-HTN

-Rhematic heart disease

- Renal disease

- Thyroid disorder

- Any Chronic illness.

Drug History: She had taken calcium and iron tablet irregularly, couldn't mention the dose and duration

Family History:

- No other member of her family suffered from such kind of illness
- No other member of her family suffered from HTN, DM. TB asthma.

Personal History: Non, Smoker, non-alcholic

Immunization History: She gas got TT vaccine in full dose.

Socio-economic history: Middle class

GENERAL EXAMINATION:

Appearance: Normal

Body built: Average

Co-Operation: Co-Operative

Nutritional status: Average

Anaemia: +

Jaundice: Absent

Skin condition: Normal

Oedema: Absent

Cyanosis: Absent

Pulse: 80/min

BP: 120/80 min

RR: 16/ min

Temperature: 99^0F

Dehydration:-

Oedema: -

Breast examination: Not done

Thyroid gland: Not enlarged

Per-abdominal examination:

Per-abdomen:

Inspection:

- ✓ Abdomen is distended, umbilicus is centrally placed
- ✓ Skin of abdomen is tensed
- ✓ Stria gravidarum, linea nigra present

Palpation:

Uterus: Feels like full of fectus

SFH: 38 week / full term size

Fundal Grip: Broad, soft, irregular breech.

Lateral grip: Irregular knob like limbs on right side and smooth, curved, resistant lack on its left side.

- ✓ Pelvic grip : Rounded smooth, hard, ballotable head
- ✓ No engaged

Liqour volume: Average

Girth of the abdomen: 101cm

Auscultation:

FHR is found on mid point of left spinoumbilical line 140/min and rhythm is regular.

Vaginal examination: Not done

Possible findings:

- ✓ Cervix is pipe
- ✓ Effacement
- ✓ Dilation of cervik
- ✓ Station 0

Other system examination: NAD

Salient feature:

Mrs. Aliya Bhatt, gravid, Para....+....., 28years old muslim, housewife, normotensive, non-diabetic, non-smoker, non-alcoholic hailing from Brahmopalli, vMymensingh admitted to MMCH with

the complaints of pregnancy for 41 weeks but no labour pain yet. She had her regular antenatal checkup and her pregnancy was uneventful. She also complained of low backache for last two weeks. Her menstrual cycle was regular, she used barrier method. She is sure about her LMP. Fetal movement is good. On general examination, she is mildly anaemic, pulse 80/min, BP 120/80 mm of Hg, RR 16/min, temperature 99^0F, no dehydration, no ankle oedema. No history of any bowel-bladder abnormality. On examination, per abdomen SFH is 38 weeks, presentation is vertex with occipito-posterior position, head is not engaged. Pelvic examination not done and other system examination reveals no abnormality.

Provisional diagnosis: …th gravida with post dated of pregnancy/Post dated pregnancy

Investigations:

1. TC, DC, ESR, Hb%
2. Blood grouping and Rh typing
3. RBS
4. VDRL
5. HBsAg
6. Urine RME
7. USG of pregnancy profile

Treatment:

1. **Induction of labour:** If no other complication.
2. **LSCS:** Presence of any other obstetric complications with unfavorable cervix.

POST-TERM PREGNANCY/POSTMATURITY

Definition:

A pregnancy continuing beyond two weeks of the expected date of delivery (> 294 days) is called postmaturity or post-term pregnancy.

[Dutta's obstetrics-7th-318]

Etiology:

1. **Wrong dates**: due to inaccurate LMP (most common)
2. **Biological variability (Hereditary):** May be seen in the family
3. **Maternal factors:**
   - ✓ Primiparity
   - ✓ Previous prolonged pregnancy
   - ✓ Sedentary habit
   - ✓ Elderly multiparae
4. **Fetal factors:** *Congenital anomalies*: Anencephaly → abnormal fetal HPA axis and adrenal hypoplasia →diminished fetal cortisol response

5. **Placental factors:** Sulphatase deficiency → low estrogen.

[Dutta's obstetrics-7th-319]

Management;
Symptoms:

Menstrual history: Important, provided the woman is very sure of her date and her cycles are regular.

Signs:

Weight record: Regular periodic weight checking reveals stationary or even falling weight.

Girth of the abdomen: It diminishes gradually because of diminishing liquor

Obstetric palpation:

- ✓ Height of the uterus
- ✓ Size of the fetus
- ✓ Hardness of the skull bones
- ✓ **Uterus feels** "**full of fetus**": As the liquor amnii diminishes

Internal examination:

- ✓ A ripe cervix is usually suggestive of fetal maturity, but unripe cervix does not exclude maturity.
- ✓ Feeling of hard skull bones either through the cervix or through the fornix

Investigations:

- ✓ **USG of pregnancy profile**
- ✓ **Amniocentesis:** biochemical and cytological parameters are helpful to assess true maturity of the fetus.
- ✓ **Straight X-ray abdomen:** appearance and density of the ossification centers in the upper end of the tibia (38–40 weeks) and lower end of the femur (36–37 weeks)

Treatment:

1. **Cervix favorable (Bishop's score > 6)** → ARM ± oxytocin → vaginal delivery.
3. **Cervix unfavorable** → PGE2 gel (0.5 mg) intracervical → cervix favorable → ARM ± oxytocin → vaginal delivery. Fetal monitoring during the course of labor is essential.
4. **Presence of any other obstetric complications with unfavorable cervix** → LSCS.

[Dutta's obstetrics-7th-320]

Complications Of Post-Term Pregnancy:

1. **Risk of placental insufficiency:** Due to placental aging. Manifested by placental calcification and infarction.
2. **FETAL**:
   During pregnancy: Fetal hypoxia and fetal distress caused by-

   - ✓ Diminished placental function

- ✓ Oligohydramnios
- ✓ Meconium stained liquor.

During labor:

- ✓ Fetal hypoxia and acidosis
- ✓ Labor dysfunction
- ✓ Meconium aspiration
- ✓ **Risks of cord compression:** Due to oligohydramnios
- ✓ Shoulder dystocia
- ✓ **Increased incidence of birth trauma:** Due to big size baby and non-moulding of head due to hardening of skull bones
- ✓ Increased incidence of operative delivery.

Following birth:

- ✓ Chemical pneumonitis, atelectasis and pulmonary hypertension: Due to **meconium aspiration;**
- ✓ Hypoxia (low Apgar scores) and respiratory failure
- ✓ **Hypoglycemia and polycythemia**
- ✓ Increased NICU admissions.

Perinatal morbidity and mortality: Increased

The main clinical significance of post-term pregnancy is **dysmaturity or macrosomia**.

[Dutta's obstetrics-7th-320]

How should a woman with postmature pregnancy be monitored when she goes into labor?

Labor should be monitored carefully and partographic plotting is to be maintained. Electronic fetal monitoring is preferred. Nonprogress of labor or presence of fetal distress indicates cesarean delivery.

Diagnosis of postmaturity retrospectively, **i.e**. **after the birth of the baby**:

1. **General appearance:**
   - ✓ Baby looks thin and old. Skin is wrinkled.
   - ✓ There is absence of vernix caseosa.
   - ✓ Body and the cord are stained with greenish yellow color.
   - ✓ Head is hard without much evidence of moulding.
   - ✓ Nails are protruding beyond the nail beds
2. **Weight:** Often more than 3 kg
3. **Length**: About 54 cm.
4. **Liquor amnii:** Scanty and may be stained with meconium.
5. **Placenta:** Evidence of ageing of the placenta manifested by excessive infarction and calcification.
6. **Cord:** Diminished quantity of Wharton's jelly which may precipitate cord compression.

[Dutta's obstetrics-7th-319-20]

Questions for practice:

1. What is this clinical situation called?
2. What do you understand by post-term pregnancy?
3. How do you diagnose postmaturity?

4. What are the risks if she does not go into labor by 42 weeks of pregnancy?
5. What would be your next course of management if she does not go into labor spontaneously?
6. How does a postmature baby look after birth?

APH (PLACENTA PREVIA)

Particulars of the patient:

Name: Mrs. Pori Moni

Age: 26 years

Occupation: Housewife

Religion: Islam

Address: Chourasta, Gazipur

Date and Time of Admission:

Date and time examination:

Bed No.:

Ward No.:

Reg. No.:

C/C:

3. Pregnancy / Amenorrhoea for 34 weeks
4. Per vaginal bleeding for 10 days.

History of Present illness:

According to statement of the patient she is pregnant/amenorrhoeic for about 34 weeks. She had regular/no antenatal checkup and her antenatal period was uneventful. But for last 10 days she noticed per vaginal bleedings, recurrently, bright red in colour, moderate in amount but not associated with abdominal pain. Each episode of bleeding lasted for 1-2 days but this episode of bleeding is continuing for 3 days. Her fetal movement is good. She has no history of trauma and she doesn't have any pain, fever, burning sensation of micturition, leg pain or breast complain. Her bowel habit is normal. She has no burning sensation of micturition, increased frequency or urgency of micturition.

Obstetric History:

Married for:

Para:

Gravida:

Age of last child:

Obstetric chart:

Sl N0	Pregnancy				Labour			Puerperium	Baby			
	Year of deliverey	Duration	ANC	Normal/ Complication	Place	Mode	Normal/ complication	N/C	Sex	Status	Feeding	Immunization

Menstrual History:

Age of Menarche: 13 years

MP/MC: 6 / 28 (±2) days

Menstrual flow: Average

1st day of LMP:

EDD:

Contraceptive history:

Practiced: Condom

Last use: Before …(Date)

History of past illness: She has no history of

-DM

-HTN

-Rhematic heart disease

- Renal disease

- Thyroid disorder

- Any Chronic illness.

Drug History: She had taken calcium and iron tablet irregularly, couldn't mention the dose and duration

Family History:

- No other member of her family suffered from suck kind of illness
- No other member of her family suffered from HTN, DM. TB asthma.

Personal History: Non, Smoker, non-alcholic

Immunization History: She gas got TT vaccine in full dose.

Socio-economic history: Middle class

GENERAL EXAMINATION:

Appearance: Normal

Body built: Average

Co-Operation: Co-Operative

Nutritional status: Average

Anaemia: +++

Jaundice: Absent

Skin condition: Normal

Oedema: Absent

Cyanosis: Absent

Pulse: 80/min

BP: 120/80 min

RR: 16/ min

Temperature: 99^0F

Dehydration:-

Oedema: -

Breast examination: Not done

Thyroid gland: Not enlarged

SYSTEMIC EXAMINATIONS:

Per-abdomen:

Inspection:

- ✓ Abdomen is distended, umbilicus is centrally placed
- ✓ Skin of abdomen is tensed
- ✓ Stria gravidarum, linea nigra present

Palpation:

Symphysiofundal height: 34 weeks which corresponds to gestational age.

Fundal grip: Broad, soft, irregular breech.

Lateral grip: Irregular knob like limbs on right side and smooth, curved, resistant lack on its left side.

Pelvic grip:

- ✓ Rounded smooth, hard, ballotable head
- ✓ No engaged

Auscultation: Foetal heart rate 140/min and regular

Pelvic examination: Not done

Other system examination: NAD

Salient feature:

Mrs. Pori Moni, 26 years of age … gravida, muslim housewife, normotensive, non-diabetic, non-smoker, non-alcoholic hailing from Chourasta, Gazipur admitted to MMCH with the complaints of she is pregnant/amenorrhoiec for 34 weeks and for last 10 days she noticed per vaginal bleedings, recurrently, bright red in colour, moderate in amount but not associated with abdominal pain. Each episode of bleeding lasted for 1-2 days but this episode of bleeding is continuing for 3 days. Her fetal movement is good. She has no history of trauma and she doesn't have any pain, fever, burning sensation of micturition, leg pain or breast complain. Her bowel habit is normal. She has no burning sensation of micturition, increased frequency or urgency of micturition.On general examination, she is severely anaemic, pulse 80/min, BP 120/80 mm of Hg, RR 16/min, temperature 99^0F, no dehydration, no ankle oedema. No history of any bowel-bladder abnormality. On examination, per abdomen SFH is 34 weeks, presentation is vertex with Occipito-posterior position, head is not engaged. Pelvic examination not done and other system examination reveals no abnormality.

Provisional diagnosis: …..gravida 34 weeks pregnancy with antepartum haemorrhage may be due to placenta previa.

Differential diagnoses: Antepartum haemorrhage due to abruptio placentae.

Investigations:

1. Hb%
2. Blood grouping and Rh typing
3. Ultrasonography: To see
    - ✓ Placental localization
    - ✓ Fetal maturity and well being

Confirmatory diagnosis: …..gravida 34 weeks pregnancy with antepartum haemorrhage may be due to placenta previa.

Treatment:

General management:

1. Complete bed rest
2. IV access
3. IV fluid: Hartman solution or normal saline, **replace blood**
4. If Shock: Resusciate as necessary - IV fluids, oxygen

Definitive management:

A. **Severe Active bleeding: CS** (Irrespective of gestational age or type)
B. **Bleeding light/stopped:**

1. **Premature Alive fetus:**
   - ✓ Steroid for lung maturation
   - ✓ Expectant management till maturity/recurrence of heavy bleeding
2. **Term or dead foetus:**
   a) **Type-I & Type-II anterior & bleeding is light:** Vaginal delivery
   b) **Type-III and IV:** CS

APH

Definition:

It is defined as bleeding from or into the genital tract after the 28th week of pregnancy but before the birth of the baby (the first and second stage of labor are thus included).

[DC Dutta-7th-241]

What are the causes of vaginal bleeding in later months of pregnancy?

1. **Placental bleeding (70%):**
   - ✓ Placenta previa
   - ✓ Abruptio placenta
2. **Extraplacental bleeding (5%):**
   - ✓ Cervical polyp
   - ✓ Ectopy
   - ✓ Cervical carcinoma
   - ✓ Local trauma.
3. **Unexplained (25%).**

[DC Dutta-7th-241]

PLACENTA PREVIA

How do you define placenta previa?

When the placenta is implanted partially or completely over the lower uterine segment it is cell placenta previa.

[DC Dutta-7th-241]

What are the types of placenta previa?

Types Or Degrees: Four types depending upon the degree of extension of placenta to the lower segment.

1. **Type—I (Low-lying):** The major part of the placenta is attached to the upper segment and only the lower margin encroaches onto the lower segment but not up to the os.
2. **Type—II (Marginal):** The placenta reaches the margin of the internal os but does not cover it

3. **Type—III (Incomplete or partial central):** The placenta covers the internal os partially (covers the internal os when closed but does not entirely do so when fully dilated).
4. **Type—IV (Central or total):** The placenta completely covers the internal os even after it is fully dilated.
   Type III and IV constitute about one-third of the cases.

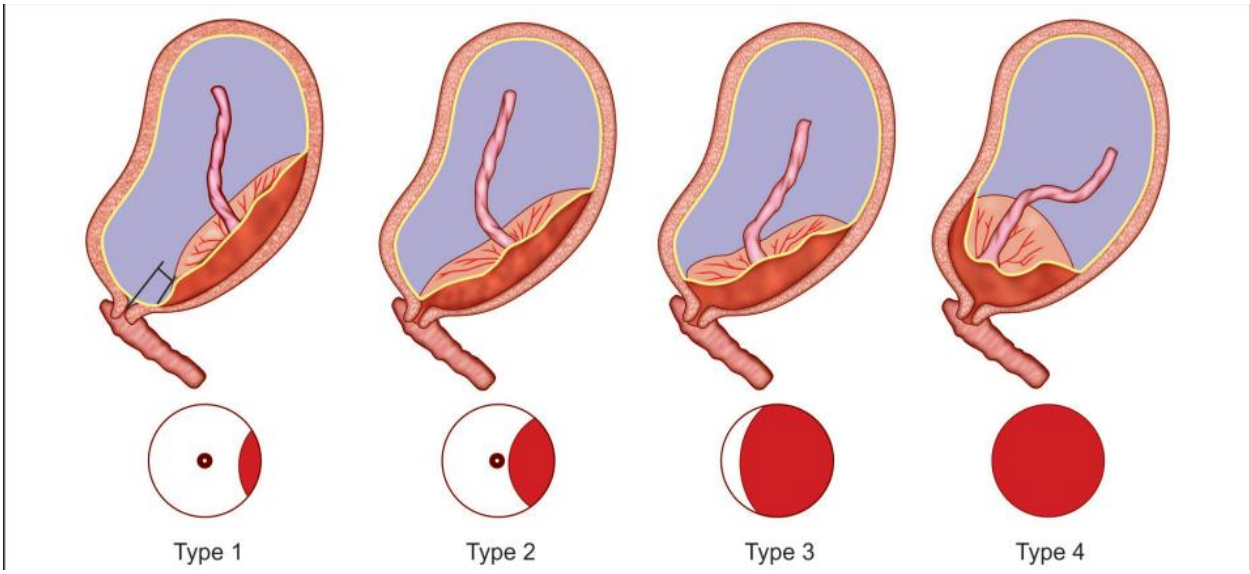


Figure: Types of placenta previa

[DC Dutta-7th-242]

High risk factors for placenta previa:

1. Multiparity
2. Increased maternal age (> 35 years)
   History of previous cesarean section or any other scar in the uterus (myomectomy or hysterotomy)
3. Placental size and abnormality (succenturiate lobes)
4. Smoking: Causes placental hypertrophy to compensate carbon monoxide induced hypoxemia
5. Prior curettage.

[DC Dutta-7th-242]

Dangerous placenta previa: Type-II posterior placenta previa.

Said so because:

- ✓ Curved birth canal major thickness of the placenta (about 2.5 cm) overlies the sacral promontory, thereby diminishing the anteroposterior diameter of the inlet and prevents engagement of the presenting part. This hinders effective compression of the separated placenta to stop bleeding
- ✓ Placenta is more likely to be compressed, if vaginal delivery is allowed

- ✓ More chance of cord compression or cord prolapse. The last two may produce fetal anoxia or even death.

[DC Dutta-7th-243]

What is the cause of bleeding in placenta previa?

- ✓ The inelastic placenta is separated from the wall of the lower uterine segment as it progressively enlarges in later months.
- ✓ This leads to opening up of the uteroplacental vessels and leads to bleeding.

Mechanisms of spontaneous control of bleeding:

- ✓ Thrombosis of the open sinuses
- ✓ Mechanical pressure by the presenting part
- ✓ Placental infarction

[DC Dutta-7th-243]

Cause of Bleeding:

Physiological bleeding:

- ✓ As the placental growth slows down in later months and the lower segment progressively dilates, the inelastic placenta is sheared off the wall of the lower segment.
- ✓ This leads to opening up of uteroplacental vessels and leads to an episode of bleeding.
- ✓ It is a physiological phenomenon and bleeding is said to be inevitable.
- ✓ The blood is almost always maternal.

[DC Dutta-7th-243]

What are the complications of placenta previa?
Complications of placenta previa:

Maternal:

A. During pregnancy:
1. **Shock**
2. **Malpresentation**: Increased incidence of breech, transverse lie and often becomes unstable.
3. **Premature labor**
4. **Death:**
   - ✓ Due to massive hemorrhage during the ante-partum, intrapartum or postpartum period.
   - ✓ Operative hazards, infection or embolism may also cause death.

B. **During labor**
1. **Early rupture of the membranes**

2. **Cord prolapse:** Due to abnormal attachment of the cord
3. **Slow dilatation of the cervix**: Due to the attachment of placenta on the lower segment.
4. **Intrapartum hemorrhage:** Due to further separation of placenta with dilatation of the cervix.
5. **Increased incidence of operative interference**.
6. **Postpartum hemorrhage is due to:**
    - ✓ Imperfect retraction of the lower uterine segment upon which the placenta is implanted
    - ✓ Large surface area of placenta with atonic uterus due to pre-existing anemia.
    - ✓ Occasionally, placenta accreta, increta, percreta on the lower segment
    - ✓ **Trauma to the cervix and lower segment:** Because of extreme softness and vascularity.
7. **Retained placenta and increased incidence of manual removal:** Increased incidence of **retained placenta is due to** :
    - ➢ Increased surface area
    - ➢ Morbid adhesion.

C. **Puerperium:**

1. **Sepsis:** Due to :
    - ✓ Increased operative interference
    - ✓ Placental site near to the vagina
    - ✓ Anemia and devitalized state of the patient.
2. Subinvolution
3. Embolism.

D. **Fetal:**

1. **Low birth weight**
2. **Asphyxia:** Caused by-
    - ✓ Early separation of placenta
    - ✓ Compression of the placenta
    - ✓ Compression of the cord.
3. **Intrauterine death**
4. **Birth injuries:** Due to increased operative interference.
5. **Congenital malformation**

[DC Dutta-7th-246-47]

What are the common complications of placenta previa?

Maternal complications:

1. Severe APH may lead to shock
2. Preterm labor

3. Hemorrhage during labor
4. Increased cesarean delivery
5. Increased risk of retained placenta → placenta accreta → requiring hysterectomy
6. PPH
7. Postpartum sepsis
8. Increased maternal mortality

Fetal complications:

1. Low birth weight babies
2. Asphyxia
3. IUFD
4. Birth injuries
5. Congenital malformations
6. Fetal anemia
7. Fetal exsanguination
8. Increased perinatal mortality

Management:

Symptoms:

Vaginal bleeding:

- ✓ Sudden onset
- ✓ Painless
- ✓ Apparently causeless and recurrent
- ✓ First time during labor, especially in primigravida
- ✓ Bleeding is fresh and without any uterine contractions.
- ✓ **Warning hemorrhage:** In about 1/3 of cases, there is a history of "warning hemorrhage" which is usually slight.

Signs:

Anemia: Proportionate to the visible blood loss.

Abdominal examination:

SFH: Proportionate to the period of gestation.

Uterus feeling: Relaxed, soft and elastic without any localized area of tenderness.

Pelvic grip: Breech or transverse or unstable lie is more frequent.

Vaginal examination:

- ✓ ***Must not be done*** outside the operation theater, as it can provoke further separation of placenta with torrential hemorrhage.
- ✓ Only inspection is to be done.

Auscultation: Fetal heart sound is usually present, unless there is major separation of the placenta with the patient in exsanguinated condition.

Investigations:

4. Hb%
5. Blood grouping and Rh typing
6. Ultrasonography: To see
   - ✓ Placental localization
   - ✓ Fetal maturity and well being

Treatment:

General management:

5. Complete bed rest
6. IV access
7. IV fluid: Hartman solution or normal saline, **replace blood**
8. If Shock: Resusciate as necessary - IV fluids, oxygen

Definitive management:

C. Severe Active bleeding: CS (Irrespective of gestational age or type)

D. Bleeding light/stopped:

3. **Premature Alive fetus:**
   - ✓ Steroid for lung maturation
   - ✓ Expectant management till maturity/recurrence of heavy bleeding
4. **Term or dead foetus:**
   c) **Type-I & Type-II anterior & bleeding is light:** Vaginal delivery
   d) **Type-III and IV:** CS

[DC Dutta-7th-243-49+OGSB Protocol-42-43+Lecture of MMC]

Is there any special arrangement for cesarean delivery in such a case?

Yes, e.g.

- ✓ Operation should preferably be done by a senior obstetrician.
- ✓ Prior blood arrangement is essential.
- ✓ Type of uterine incision depends upon the type of placenta previa.
- ✓ Patient should be counseled as regard to the risk of morbid adherent placenta and the need of emergency hysterectomy.

What is the risk of recurrence for placenta previa?

Recurrence risk is about 8-fold increase

How will follow up the patient?

- ✓ Enquiry about vaginal bleeding and fetal movement
- ✓ Record pulse, BP
- ✓ SFH

Stallworthy's sign:

- ✓ Slowing of the fetal heart rate on pressing the head down into the pelvis which soon recovers promptly as the pressure is released is suggestive of the presence of low lying placenta especially of posterior type.
- ✓ But this sign is not always significant because it may be due to fetal head compression even in an otherwise normal case.

[DC Dutta-7th-244]

ABRUPTIO PLACENTAE/ACCIDENTAL HEMORRHAGE/

PREMATURE SEPARATION OF PLACENTA

What is placental abruption?

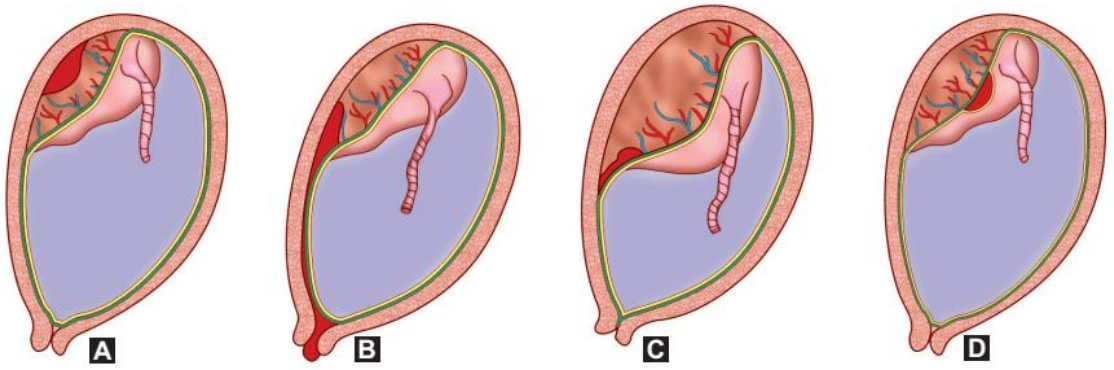
It is the premature separation of a normally implanted placenta before delivery of the fetus

[DC Dutta-7th-252]

Types:

1. **Revealed type:** When the bleeding comes out of the cervical canal and is visible externally (90%),
2. **Concealed type:** When the hemorrhage is concealed (10%)
3. **Mixed type**.

[DC Dutta-7th-252]



Figs 18.5A to D: Varieties of abruptio placenta: (A) Concealed; (B) Revealed; (C) Marginal (subchorionic) and; (D) Preplacental (subamniotic)

What are the common causes of abruptio placentae?

1. Hypertension in pregnancy
2. Increasing parity
3. Increasing maternal age
4. Smoking
5. Short cord
6. Folic acid deficiency
7. Thrombophilias,
8. Placental abnormalities (circumvallate placenta).

[DC Dutta-7th-252]

What is the mechanism of the placental separation in pre-eclampsia?

Spasm of the vessels in the Utero placental bed (decidual spiral artery) → anoxic endothelial damage → rupture of vessels or extravasation of blood in the decidua basalis (retroplacental hematoma).

[DC Dutta-7th-252]

What is the source of bleeding in placental abruption?

It is mainly the maternal bleeding. But it may be either maternal or fetal in origin.

How will you manage a case of placental abruption s?

Clinical feature:

1. Vaginal bleeding in second or third trimester of pregnancy (90%)
2. PV bleeding is associated with abdominal pain, uterine tenderness and often with a dead fetus.

Investigations:

1. Hb%
2. Blood grouping and Rh typing
3. USG

Treatment:

General management:

1. Complete bed rest
2. IV access
3. IV fluid: Hartman solution or normal saline, **replace blood**
4. If Shock: Resusciate as necessary - IV fluids, oxygen

Definitive management:

A. **Heavy bleeding:** Termination of pregnancy
   1. **CS:** If delivery is not imminent
   2. **NVD:** If delivery is imminent (Expedite by VE/Forceps)

B. Light/moderate bleeding:

1. **CS:**
   - ✓ Foetus alive / distressed
   - ✓ Term / near term
   - ✓ Delivery not imminent
   - ✓ Unsatisfactory progress of labour
2. **Vaginal delivery:**
   - ✓ Foetus dead or too premature when maternal condition is stable cooperatively
   - ✓ Bleeding stops after ARM

[DC Dutta-7th-255-56+Lecture of MMC+OGSB Protocol-42-43]

How do you differentiate placental abruption from placenta previa?

Diagnostic clinical features in a case with placental abruptions are:

1. Vaginal bleeding is associated with **abdominal pain**. Whereas in a case with placenta previa the bleeding **is painless**.
2. Often it is associated with **pre-eclampsia**.
3. The blood is of **dark in color**. In a case with placenta previa the bleeding is fresh and red.
4. The **height of the uterus is increased** (concealed variety).
5. The uterus feels **tense, rigid and tender**. In placenta previa the uterus is soft and relaxed.
6. Fetal heart sound **may be absent** (as there is fetal death in majority of the cases).
7. **Sonography:** Placenta is in the upper segment whereas in a case with placenta previa, placenta is seen in the lower uterine segment.

What is a Couvelaire uterus?

- ✓ It is a pathological condition of the uterus seen in a woman during laparotomy following massive placental abruption.
- ✓ There is widespread extravasation of blood into uterine musculature upto the serosa.
- ✓ The uterus appears bluish in color.

Is Couvelaire uterus an indication of hysterectomy?

- ✓ Couvelaire uterus is not an indication of hysterectomy.
- ✓ Because, it does not interfere with the uterine myometrial contractions and does not lead to postpartum hemorrhage.

What are the complications of abruptio placentae?

Maternal:

1. **Hemorrhage**

2. **Shock:**
   - ✓ May be out of proportion to the blood loss.
   - ✓ Release of thromboplastin into the maternal circulation results in DIC or there may be amniotic fluid embolism
3. **Blood coagulation disorders**
4. **Oliguria and anuria:** Due to
   - ✓ Hypovolemia
   - ✓ Serotonin liberated from the damaged uterine muscle producing renal ischemia
   - ✓ Acute tubular necrosis.
   - ✓ Cortical necrosis and renal failure
5. **PPH:** Due to
   - ✓ Atony of the uterus
   - ✓ Increase in serum FDP
6. **Puerperal sepsis**
7. **Sheehan's syndrome:** Failure of lactation later on.

Fetal:

Deaths: Due to prematurity and anoxia due to placental separation.

[DC Dutta-7th-256]

NORMAL PUERPERIUM (Following NVD)

Particulars of the patient:

Name: Nazma Khatun

Age: 26 years

Occupation: Housewife

Religion: Islam

Address: Gouripur, Mymenshing.

Ward no: 5/2

Bed no: 06

Date and time of admission: 01.05.17

Date and time of examination: 03.05.17

Chief Complaints:

1. History of delivery by vaginal delivery 2 days back.

History of present illness:

According to statement of the patient she was pregnant for 40 weeks. Regarding her antenatal history, she was in her regular/irregular antenatal check up and her pregnancy period was uneventful. She was immunized properly. 2 days back she developed **lower abdominal pain for 10 hours, severe, spasmotic in nature which was increasing in duration and frequency and associated with reddish mucous discharge (Show)/ labour pain** and was admitted to MMCH on 01.05.2017. She delivered a female baby per vaginally with the aid of episiotomy on 01.05.2017 at 3.00pm. Now she has slight per vaginal discharge reddish in colour, average in amount, not foul smelling. She changes 1-2 pads per day. She has no complains of fever, pain in the breast, nipple is normal and no burning sensation of micturition, bowel habit is normal and no leg pain. Her baby is on exclusive breast feeding.

Obstetrical history:

Married for: 2 years

Para: 1+0

ALC (Age of lost child): 02 days

Obstetric chart:

Sl N0	Pregnancy				Labour			Puer periu m	Baby			
	Year of deliverey	Duration	ANC	Normal/ Complication	Place	Mode	Normal/ complication	N/C	Sex	Status	Feeding	Immunization
1	2017	40	Regular	Normal	Hospital	Vaginal	normal	Normal	Female	Alive	yes	yes

Mesntural History:

Age of Menerche: 13 years

MP/MC: 5/ 28 (±2) days

Menstrual flow: Average

1st day of LMP:

EDD:

H/O Past illness: She has no HTN, DM, bronchial asthma, TB or any surgical procedure.

Drug history: She had taken calcium and iron tablet irregularly, couldn't mention the dose and duration.

Contraceptive history:

Practised: Condom

Last use: Before …(Date)

Personal history: She is non-smoker and non alcoholic.

Family history: All other members of her family enjoying good health.

Socio-economic condition: She belongs to a middle class family.

Immunization history: She has got TT vaccine in full dose.

General Examination:

Appearance: Normal

Body built: Average

Cooperation: Cooperative

Nutritional status: Average

Anaemia: +

Jaundice: Absent

Skin condition: Normal

Oedema: Absent

Dehydration: Absent

Temperature: 99^0 F

Pulse: 84/min

BP: 130/80 mm of hg

Respiratory rate: 18/min

Thyroid gland: Not enlarged

Per Abdominal examination:

Inspection:

Shape: Scaphaoid

Umbilicus: centrally placed and inverted

Linea nigra and stria albicans: Present

Skin is loose

No visible palsation

Palpation:

Soft, non-tender

SFH:

Auscultation:

Bowel sound: Present

Per vaginal examination: Not done [If done, **Findings:** Pad is soaked and shows reddish colour. No foul smell]

Breast examination: Not done [If done, Findings: Both breasts and nipples are healthy looking]

CVS examination:

Heart sound: 1st and 2nd heart sounds are audible in all four areas

Added sounds: Absent

Respiratory system examination:

Breath sound: Vesicular with prolonged expiration

Added sound: Absent

Examination of the baby:

Sex: Female

Age: 02 days

Birth weight: 3 kg

Length: 52 cm

Head circumstance: 35 cm

Skin colour: Pink/normal

Jaundice: Absent

Dehydration: Absent

Umbllical condition: Healthy [Dry and periumbilical region isn't swollen]

Congenital anomaly: Absent

HR: 120/min

RR: 50/min

Reflexes: Sucking, moro rooting- all are present.

Salient Feature:

Mrs. Nazma Para 1+0, 26 years old, normotensive, non diabetic, non-alcohol muslim housewife, hailing from Gouripur, Mymensingh admitted to MMCH at her 40th weeks of pregnancy with labour pain for 10 hours on 01.05.2017. She delivered a female baby per vaginally with the aid of episiotomy on 01.05.2017 at 3.00pm. Her lochial discharge is normal. She changes 1-2 pads per day. She has no complains of fever, pain in the breast, nipple is normal and no burning sensation of micturition, bowel habit is normal and no leg pain. Her baby is on exclusive breast feeding. On general examination, she is mildly anaemic, Jaundice, cyanosis absent, Pulse 84/min, BP 130/80 mm of Hg, temperature 98^0 F, RR-18/min, no dehydration and oedema. On abdominal examination, abdomen is scaphoid shaped, linia nigra and stria gravidarum present, SFH is ..cm which corresponds height of uterus is .....cm which corresponds to the day of preperium. Other system examination reveals no abnormality. Her baby is 02 days of age, female, pink is on exclusive breast feeding, HR 120/min, RR50/min, all reflexes are normal, no congenital anomaly.

Diagnosis:

A case of 3^{rd} day of normal peurperium following normal vaginal delivery with episiotomy.

Or,

A case of 2nd post-operative day (POD) of normal peurperium following normal vaginal delivery with episiotomy.

Investigations:

1. Hb%
2. Urine RME
3. **RBS:** If H/O DM

Treatment:

1. Bed Rest
2. Nutritous diet
3. **Antibiotic:**
   - ✓ Cephradine 500 mg 6 hourly 7 days
   - ✓ Metronidazole 400mg 8 hourly 5 days
   - ✓ Flucloxallin 500mg 6 hourly 7 days. [Not needed if no episiotomy]
4. **Analgesic:** Paracetamol or ketorolac 10mg
5. **PPI:** Omeparazole 20 mg BD
6. Fe, Folic acid and calcium supplement (for 3 months).

Discharge:

It is individualized for the patient, usually we discharge the patient

NVD: Within 24-48 hours

LSCS: 7th POD IF

√ After cutting all the stitches, if wound is healthy and patient is OK:

- ✓ Pulse
- ✓ Temperature
- ✓ BP
- ✓ Per vaginal bleeding.

Advice:

1. Nutritous diet (2 times more than normal)

2. Adequate intake of water
3. Abstrinence from coitus for 6 weeks
4. Contraceptive advice:
    - ✓ **Lactating:** POP from 6 weeks to onwands
    - ✓ **Non lactating:** 4 weeks to onwands
    - ✓ Implant (5 y)
5. If any problem, consult with physician
6. Avoid heavy work for 3 months
7. Maintain personal Hygiene
8. Post natal check up after 6 weeks
9. Birth spacing: 2 years
10. **For baby:**
    - ✓ Exclusive breast feeding
    - ✓ Start immunization according to EPI

Stitch off:

Alternate: 6th POD

All: 7th POD

Or,

Transverse→ 7th POD

Vertical→ 8th POD

What is your case?

See diagnosis

Why do you say that it's a normal purperium?/ What are the parameters of normal purperium?

- ✓ Patient has no complain
- ✓ **Temperature**: Normal
- ✓ **Pulse:** Normal
- ✓ **BP:** Normal

- ✓ **Breast:** No abnormalities
- ✓ **Involution:** Normal
- ✓ **Lochia:** Normal

EPI Schedule:

শিশুদের নিয়মিত টিকাদান সময়সূচি

রোগের নাম	টিকার নাম	টিকার ডোজ	ডোজের সংখ্যা	ডোজের মধ্যে ন্যূনতম বিরতি	টিকা দেয়ার সঠিক সময়	টিকাদানের স্থান	টিকার প্রয়োগ পথ
যক্ষ্মা	বিসিজি	০.০৫ এম এল	১	-	জন্মের পর থেকে	বাম বাহুর উপরের অংশে	চামড়ার মধ্যে
ডিফথেরিয়া, হুপিংকাশি, ধনুষ্টংকার, হেপাটাইটিস-বি, হিমোফাইলাস ইনফ্লুয়েঞ্জা-বি	পেন্টাভ্যালেন্ট টিকা (ডিপিটি, হেপাটাইটিস-বি, হিব)	০.৫ এম এল	৩	৪ সপ্তাহ	৬ সপ্তাহ ১০ সপ্তাহ ১৪ সপ্তাহ	বাম উরুর মধ্যভাগের বহিরাংশে	মাংসপেশী
নিউমোকক্কাল নিউমোনিয়া	পিসিভি টিকা	০.৫ এম এল	৩	৪ সপ্তাহ	৬ সপ্তাহ ১০ সপ্তাহ ১৪ সপ্তাহ	ডান উরুর মধ্যভাগের বহিরাংশে	মাংসপেশী
পোলিওমাইলাইটিস	বিওপিভি	২ ফোঁটা	৩	৪ সপ্তাহ	৬ সপ্তাহ ১০ সপ্তাহ ১৪ সপ্তাহ	মুখে	মুখে
	আইপিভি (ফ্রাকশনাল)	**০.১ এম এল**	**২**	**৮ সপ্তাহ**	**৬ সপ্তাহ ১৪ সপ্তাহ**	**ডান বাহুর উপরের অংশে**	**চামড়ার মধ্যে**
হাম ও রুবেলা	এমআর টিকা	০.৫ এম এল	২	-	৯ মাস ও ১৫ মাস বয়স পূর্ণ হলে	ডান উরুর মধ্যভাগের বহিরাংশে	চামড়ার নীচে

What is after pain?

- ✓ It is an ischemic pain due to contraction of uterus.
- ✓ Felt more when baby sucks due to release of oxytocin.

PUERPERIUM

Puerperium:

Puerperium is the period following childbirth during which the body tissues, specially the pelvic organs revert back approximately to the prepregnant state both anatomically and physiologically.

The retrogressive changes are mostly confined to the reproductive organs with the exception of the mammary glands which in fact show features of activity.

[DC Dutta's-7th-144]

Duration:

Puerperium begins as soon as the placenta is expelled and **lasts for approximately 6 weeks** when the uterus becomes regressed almost to the non-pregnant size.

Arbitrarily divided into-

1. **Immediate:** Within 24 hours
2. **Early:** Up to 7 days
3. **Remote:** Up to 6 weeks.

Similar changes occur following abortion but takes a shorter period for the involution to complete.

[DC Dutta's-7th-144]

Fourth trimester: Is the time from delivery until complete physiolgical involution and psychological adjustment.

[DC Dutta's-7th-144]

Involution:

Involution is the process whereby the genital organs revert back approximately to the state as they were before pregnancy.

The woman is termed as a puerpera.

[DC Dutta's-7th-144]

Clinical Assessment Of Involution:

Assessed by: Height of the fundus of the uterus in relation to symphysis pubis.

Prerequisites:

- ✓ Measurement should be taken at a fixed time every day, preferably by the same observer.
- ✓ **Bladder must be emptied before hand** and preferably the bowel too: As the full bladder and the loaded bowel may raise the level of the fundus.

Rate of involution:

1. **Following delivery:** SFH is about 13.5 cm (5 1/2")
2. **During 1st 24 hours:** Remains constant
3. **Thereafter:** A steady decrease in height by 1.25 cm (1/2") in 24 hours

By the end of 2nd week, uterus becomes a pelvic organ. The rate of involution thereafter slows down until by 6 weeks, the uterus becomes almost normal in size.

What do mean by normal involution of uterus?

- ✓ Progressive and gradual diminution of uterus size.
- ✓ This occurs by enzymatic action and relative anoxia induced by effective contraction and retraction of uterus.

What are the abnormalities of uterine involution?

1. **Subinvolution:**
   - ✓ Retained bits of placenta
   - ✓ Infection
   - ✓ Fibroid
2. **Superinvolution:**
   - ✓ Sometimes, the involution may be continued in women who are lactating so that the uterus may be smaller in size.
   - ✓ Returns to normal size if the lactation is withheld.

Managent of normal puerperium:

1. Rest
2. Diet: Full diet from date of delivery. Extra 700calories or 2 extra meal is required.
3. Analgesic: for after pain
4. Antibiotic
5. **Monitoring:**
   - ✓ Pulse
   - ✓ Temperature
   - ✓ Respiration
   - ✓ Involution of uterus
6. Milk of magnesia at bedtime to avoid constipation
7. Care of perineum:
   - ✓ Episiotomy wound is cleaned and kept dry
   - ✓ Use of sterile vulval pad
8. Care of breast: The nipples are cleaned in each bath.
9. Care of bladder: Pass urine frequently
10. Postpartum posture and exercise:
    - ✓ Feeding the baby in sitting position
    - ✓ Deep breathing, simple limb movement and pelvic floor exercise to reduce thrombosis.
11. **Hospital stay:** It is individualized for the patient, usually we discharge the patient
    NVD: Within 24-48 hours

    LSCS: 7th POD IF

    √ After cutting all the stitches, if wound is healthy and patient is OK:

    - ✓ Pulse
    - ✓ Temperature
    - ✓ BP
    - ✓ Per vaginal bleeding.

12. Advice on discharge:

a) Nutritous diet (2 times more than normal)

b) Adequate intake of water

c) Abstrinence from coitus for 6 weeks

d) Contraceptive advice:

- ✓ **Lactating:** POP from 6 weeks to onwands
- ✓ **Non lactating:** 4 weeks to onwands
- ✓ Implant (5 y)

e) If any problem, consult with physician

f) Avoid heavy work for 3 months

g) Maintain personal Hygiene

h) Post natal check up after 6 weeks

i) Birth spacing: 2 years

j) For baby:

- ✓ Exclusive breast feeding
- ✓ Start immunization according to EPI

13. Post natal visit: Care of Mother and Newborn from 1 hour after delivery, up to 6 weeks post delivery.

Schedule:

First: within 24 hours
second: 2-3 days
Third: 4-7 days
Fourth: 42-45 days

[Ward classes of MMCH+OGSB protocol-24]

LOCHIA

Definition:

It is the vaginal discharge for the first fortnight during puerperium.

The discharge originates from the uterine body, cervix and vagina.

Odor: A peculiar offensive fishy smell.

Reaction: Alkaline tending to become acid towards the end.

[DC Dutta's-7th-144]

Types: Depending upon the variation of the color of the discharge, it is named as:

1. **Lochia rubra** (red):
   - ✓ 1-4 days.

- ✓ Consists of blood, shreds of fetal membranes and decidua, vernix caseosa, lanugo and meconium.

2. **Lochia serosa:**
   - ✓ 5-9 days
   - ✓ Yellowish or pink or pale brownish.
   - ✓ Consists of less RBC but more leukocytes, wound exudate, mucus from the cervix and microorganisms (anaerobic streptococci and staphylococci).
3. **Lochia alba** (pale white):
   - ✓ 10-15 days.
   - ✓ Contains plenty of decidual cells, leukocytes, mucus, cholestrin crystals, fatty and granular epithelial cells and microorganisms.

[DC Dutta's-7th-144]

Amount: For the first 5–6 days, is estimated to be 250 mL.

How will you assess the amount of lochia?

By number of pads used in 24 hours. Usually doesn't exceed 5 pads.

Normal duration:

- ✓ May extend up to 3 weeks.
- ✓ The red lochia may persist for longer duration especially in women who get up from the bed for the first time in later period.
- ✓ The discharge may be scanty, especially following premature labors or may be excessive in twin delivery or hydramnios.

[DC Dutta's-7th-144]

Clinical importance: The vulval pads are to be inspected daily to get information:

1. **Odor:** If malodorous, indicates infection. **Retained plug or cotton piece inside the vagina should be kept in mind**.
2. **Amount:**
   - ✓ **Scanty or absent:** signifies infection or lochiometra.
   - ✓ **Excessive:** Indicates infection.
3. **Color:** Persistence of red color beyond the normal limit signifies subinvolution or retained bits of conceptus.
4. **Duration:** Duration of the lochia alba beyond 3 weeks suggests local genital lesion.

[DC Dutta's-7th-144]

LACTATION

What is colostrum?

It is the first milk secreted from breast during pregnancy and the first 2-3 days following delivery.

Composition of the colostrum:

1. It is deep yellow serous fluid, alkaline in reaction.
2. Higher specific gravity; a high protein, vitamin A, sodium and chloride content
3. Lower carbohydrate, fat and potassium than the breast milk.
4. IgA
5. **Microscopically:**
    - ✓ Fat globules
    - ✓ **Colostrum corpuscles:** Large polynuclear leukocytes, oval or round in shape containing numerous fat globules.
    - ✓ Acinar epithelial cells

Advantages:

1. **Immunogical defense:** The antibodies (IgA, IgG, IgM) and humoral factors (lactoferrin) provides
2. **Laxative action:** Because of large fat globules.

When should the baby be put to breast following delivery?

Immediately after delivery

Key points of position:

1. Baby's head and body in a same line
2. Baby's body close to mother
3. Baby's buttock supported
4. Baby's nose opposite to mother's nipple

Key points of attachment:

1. Baby's mouth wide open
2. Lower lip curled outwards
3. Most of the areola including the lower part must be inside the babys mouth
4. Baby's chin will touch the breast

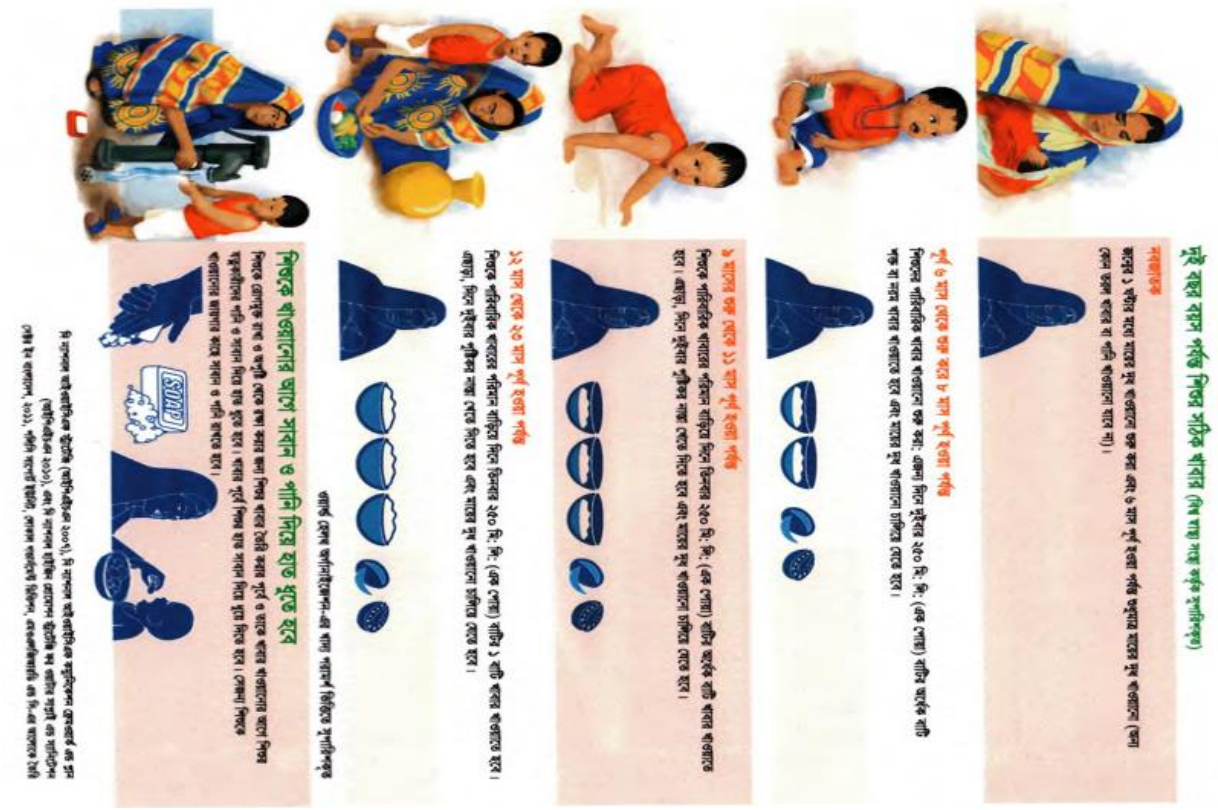
What is exclusive breast feeding?

1. No drinks or food other than breast milk given to baby
2. No dummies or artificial given to the baby
3. At least 8-12 times in 24 hours

Benefits of breast feeding: ***See Paediatrics book***

What are the hazards of bottle feeding?

1. Gastroenteritis
2. RTI
3. Milk allergy
4. Malnutrition



Inadequate milk production (lactation failure):

Causes:

1. Infrequent suckling
2. Endogenous suppression of prolactin:
   - ✓ Ergot preparation
   - ✓ Pyridoxine
   - ✓ Diuretics
   - ✓ Retained placental bits
3. Pain, anxiety and insecurity may be the hidden reasons.

Unrestricted feeding at short interval (2–3 hours) is helpful.

Drugs to improve milk production (galactogogues):

Metoclopramide: increases milk volume (60-100%) by increasing prolactin levels.

Sulpuride: Dopamine antagonist

Intranasal oxytocin contracts myoepithelial cells and causes milk let down.

[DC Dutta's-7th-149]

What is milk ejection or milk let down reflex?

Suckling → nipple and areola stimulation → ascending tactile impulse via thoracic sensory nerve (T 4,5,6) → paraventricular and supraoptic nuclei of the hypothalamus → oxytocin release from posterior pituitary → contraction of myoepithelial cells of the alveoli → milk let down.

- ✓ This reflex is inhibited by pain and abnormal psychological condition.
- ✓ Presence of the infant or even infant's cry can induce let down reflex without suckling.

What is the relationship between lactation with amenorrhea and ovulation?

Breastfeeding → increased prolactin level → suppression of FSH and LH levels → less follicular growth and development → hypoestrogenic state (amenorrhea) and anovulation.

Frequency and duration of suckling correlate directly related to the level of prolactin, duration of ovarian suppression and lactational amenorrhea.

When is she going to resume her menstruation normally?

- ✓ It depends on whether she breast-feeds her baby or not.
- ✓ About 70% of the women, who are fully breastfeeding, may remain amenorrheic for the first 6 months.
- ✓ But a nonlactating woman, may resume her menstruation by 6 weeks time in about 40% cases.

Lactation suppression: Lactation is suppressed when the baby is born dead or dies in the neonatal period or if breastfeeding is contraindicated.

Methods commonly used are:

1. Stop breastfeeding
2. Avoid pumping or milk expression
3. Breast support
4. Ice packs to prevent engagement
5. Analgesics (aspirin) to relieve pain
6. A tight compression bandage is applied for 2–3 days.
7. **Medical methods:** With estrogen, androgen or bromocriptine is not recommended.

Side effects of bromocriptine:

1. Hypotension
2. Rebound secretion

3. Seizures
4. Myocardial infarction
5. Puerperal stroke

[DC Dutta's-7th-149]

ABNORMAL PUERPERIUM

How do you define puerperal pyrexia? What are the common causes of puerperal pyrexia?

Puerperal Pyrexia:

A rise of temperature reaching 100.4°F (38°C) or more (measured orally) on 2 separate occasionsat 24 hours apart (excluding first 24 hours) within first 10 days following delivery is called puerperal pyrexia.

Causes:

1. Puerperal sepsis
2. UTI (cystitis, pyelonephritis)
3. Mastitis
4. Infection of cesarean section wound
5. Pulmonary infection, atelectasis pneumonia
6. Septic pelvic thrombophlebitis
7. A recrudescence of malaria or pulmonary tuberculosis —not uncommon in the tropics
8. Unknown origin.

[DC Dutta's-7th-432]

What are the common causes of puerperal sepsis?

- ✓ Endometritis
- ✓ Endomyometritis
- ✓ Pelvic cellulitis

[DC Dutta's-7th-432]

What are the common predisposing factors for puerperal sepsis?
Antenatal factors

- ✓ Anemia and malnutrition
- ✓ Premature rupture of membranes.

Intrapartum factors

- ✓ Repeated vaginal examination
- ✓ Prolonged rupture of membranes >18 hours
- ✓ Traumatic instrumental delivery (forceps)
- ✓ Prolonged labor

- ✓ Dehydration, ketoacidosis in labor

[DC Dutta's-7th-433]

What are the common organisms involved in puerperal sepsis?

Aerobic:

- ✓ Group A *Streptococcus hemolyticus* (GAS)
- ✓ *Staphylococcus pyogenes*
- ✓ *E. coli*
- ✓ *Pseudomonas*

Anerobic:

- ✓ *Streptococcus*
- ✓ Bacteroides (fragilis), Clostridia

[DC Dutta's-7th-435]

What investigation do you do in such a case?

It will depend upon the clinical examination findings.

Common investigations are:

1. High vaginal swab/wound swab for culture and sensitivity.
2. Midstream urine for culture and sensitivity.
3. Complete blood count (CBC).
4. Pelvic ultrasound: To detect any retained bits of tissue inside the uterus or to detect pelvic abscess.
5. X-ray chest: To detect pathology (pneumonia and Koch's lesion).
6. Doppler USG study: To detect venous thrombosis.

[DC Dutta's-7th-436]

What is subinvolution? What are the causes of subinvolution of the uterus?

When the involution is impaired or retarded it is called subinvolution.

Causes:

Predisposing factors:

1. Grand multiparity
2. Over-distension of uterus as in twins and hydramnios
3. Maternal ill health
4. Cesarean section
5. Prolapse of the uterus
6. Retroversion after the uterus becomes pelvic organ
7. Uterine fibroid.

Aggravating factors are:

1. Retained products of conception
2. Uterine sepsis (endometritis).

[DC Dutta's-7th-436]

What are the common causes of subinvolution of the uterus?

- ✓ When the uterus is hugely enlarged as in twins
- ✓ Grand multiparity
- ✓ Cesarean section
- ✓ Retained products of conceptus
- ✓ Uterine sepsis
- ✓ Uterine prolapse
- ✓ Fibroid uterus.

Why uterus is taken as an index to assess subinvolution?

Uterus is the most common organ affected in subinvolution and the most accessible organ to be measured per abdomen, the uterine involution is considered clinically.

[DC Dutta's-7th-436]

BREAST COMPLICATIONS

The common breast complications in puerperium are:

- ✓ Breast engorgement
- ✓ Cracked and retracted nipple leading to difficulty in breast feeding
- ✓ Mastitis and breast abscess
- ✓ Lactation failure.

[DC Dutta's-7th-437]

Breast Engorgement:
Cause:

- ✓ Due to exaggerated normal venous and lymphatic engorgement of the breasts which precedes lactation.
- ✓ This in turn prevents escape of milk from the lacteal system.

Onset: 3rd or 4th day postpartum
C/F*:*

- ✓ Pain and feeling of tenseness or heaviness in both the breasts
  Generalised malaise or even transient rise of temperature
- ✓ Painful breast feeding.

Treatment:

1. **Support the breasts:** With a binder or brassiere

2. **Manual expression**: If any remaining milk after each feed
3. **Analgesics:** For pain
4. Baby should be put to the breast regularly at frequent intervals
5. **Breast pump:** Gentle use In a severe case will reduce the tension in the breast without causing excess milk production.

[DC Dutta's-7th-438-39]

In severe case: Tab. Silboesterol or Bromocriptine to suppress milk secretion.

Prevention*:*

- ✓ Avoid prelacteal feeds
- ✓ Initiate breast feeding early and unrestricted
- ✓ Exclusive breast feeding on demand
- ✓ Feeding in correct position

[DC Dutta's-7th-437]

Acute Mastitis:

Common organisms:

- ✓ *Staphylococcus aureus*
- ✓ *S. epidermidis*
- ✓ *Streptococci viridans*.

Risk factors:

- ✓ Poor nursing
- ✓ Maternal fatigue
- ✓ Cracked nipple.

Onset: In superficial cellulitis, the onset is acute during first 2–4 weeks postpartum.

Management:

Symptoms:

- ✓ Generalized malaise and headache
- ✓ Fever (102°F or more) with chills
- ✓ Severe pain and tender swelling in one quadrant of the breast.

Signs:

- ✓ Patient is toxic
- ✓ Swelling on the breast. The overlying skin is red, hot and flushed and feels tense and tender.

Treatment:

1. Breast support
2. Plenty of oral fluids

3. Breast feeding is continued with good attachment. Nursing is initiated on the uninfected side first to establish let down
4. The infected side is emptied manually with each feed
5. Antibiotic
6. Analgesics (Ibuprofen)

[DC Dutta's-7th-438]

Complications: Breast abscess.
Prophylaxis:

- ✓ Thorough hand washing before each feed
- ✓ Cleaning the nipples before and after each feed and keeping them dry
- ✓ Reduce the nosocomial infection rates.

[DC Dutta's-7th-438]

Breast Abscess:

C/F:

- ✓ Flushed breasts not responding to antibiotics promptly
- ✓ Brawny edema of the overlying skin
- ✓ Marked tenderness with fluctuation
- ✓ Swinging temperature.

Treatment:

1. **Draining under GA**
2. **Breast feeding:**
   - ✓ Continued in the uninvolved side.
   - ✓ The infected breast is mechanically pumped every two hours and with every let down.
   - ✓ Once cellulitis has resolved breast feeding from the involved side may be resumed.

[DC Dutta's-7th-439]

Lactation Failure (Inadequate Milk Production):

Causes:

- ✓ Infrequent suckling
- ✓ Depression or anxiety state in the puerperium
- ✓ Reluctance or apprehension to nursing
- ✓ Ill development of the nipples
- ✓ Painful breast lesion
- ✓ Endogenous suppression of prolactin (retained placental bits)
- ✓ Prolactin inhibition (ergot preparations, diuretics, pyridoxin).

Treatment:

Antenatal:

- ✓ Counsel the mother regarding the advantages of nursing her baby with breast milk
- ✓ Take care of any breast abnormality specially a retracted nipple and to maintain adequate breasthygiene specially in the last two months of pregnancy.

Puerperium:

- ✓ Encourage adequate fluid intake
- ✓ Nurse the baby regularly
- ✓ Painful local lesion is to be treated to prevent development of nursing phobia
- ✓ Metoclopramide, intranasal oxytocin and sulpiride (selective dopamine antagonist). They act by stimulating prolactin secretion.

[DC Dutta's-7th-439]

Retracted and flat nipple: Commonly met in primigravidae.

Patient is advised to lift up nipples frequently or wear glass shield.

Urinary Problems

What are the common urinary problems in the puerperium?

1. **Urinary tract infection(UTI):**
   - ✓ Catheterization
   - ✓ Stasis of urine in puerperium
   - ✓ Recurrence of previous infection.
2. **Retention of urine:** Due to pain and spasm following bruising of the paraurethral region and perineal region.
3. **Incontinence of urine:** Either stress (common) or true incontinence due to fistula formation (rare).

What are the causes of puerperal retention of urine?

- ✓ Unaccustomed position and lack of privacy in hospital
- ✓ Reflex pain from the perineal injuries
- ✓ Bruises at bladder neck
- ✓ Bladder atony

Puerperal Emergencies:

A. Immediate:
- ✓ **PPH**
- ✓ **Shock**: hypovolemic, endotoxic or idiopathic
- ✓ **Postpartum eclampsia**

- ✓ **Pulmonary embolism**: liquor amnii or air
- ✓ **Inversion**.

B. **Early (within one week)*:***
- ✓ Acute retention of urine
- ✓ Urinary tract infection
- ✓ Puerperal sepsis
  Breast engorgement
- ✓ Mastitis and breast abscess
- ✓ Pulmonary infection (atelectasis)
- ✓ Anuria following abruptio placentae, mismatched blood transfusion or eclampsia.

C. **Delayed**:
- ✓ Secondary postpartum hemorrhage
- ✓ Thromboembolic manifestation—pulmonary embolism, thrombophlebitis
- ✓ Psychosis
- ✓ Postpartum cardiomyopathy
- ✓ Postpartum hemolytic uremic syndrome

[DC Dutta's-7th-442]

What are the appropriate indications of episiotomy?

1. **Rigid perineum:** E.g. elderly primigravidae, previous perineal scar-like perineorrhaphy.
2. **Instrumental delivery:** forceps and ventouse.
3. **Malposition** (occipitoposterior), **malpresentation** (breech delivery) or **shoulder dystocia.**
4. **Threatened perineal tear.**

NORMAL PUERPERIUM (Following C/S) (Post dated pregnancy)

Particulars of the patient:

Name: Nasima Begum

Age: 21 years

Occupation: Housewife

Religion: Islam

Address: Gouripur, Mymenshing.

Ward no: 5/2

Bed no: 06

Date and time of admission: 17.04.17

Date and time of examination: 22.04.17

Chief Complaints:

2. History of caesarean section 5 days back.
3. Pain around the incision area for 4 days.

History of present illness:

According to statement of the patient she was pregnant for 41 weeks. Regarding her antenatal history, she was in her regular/irregular antenatal check up and her pregnancy period was uneventful. She was immunized properly against tetanus. Her EDD was 11April, 2017. She waited for 7 days for delivery. When it didn't occur spontaneously, she was got admitted to MMCH for delivery of the baby on 17.04.2017. Her caesarean section was performed on the same day at 3.00pm. Now she has slight pain around the incision area. Now she has slight per vaginal discharge reddish in colour, average in amount, not foul smelling. She changes 1-2 pads per day. She has no complains of fever, pain in the breast, nipple is normal and no burning sensation of micturition, bowel habit is normal and no leg pain. Her baby is on exclusive breast feeding.

Obstetrical history:

Married for: 2 years

Para: 1+0

ALC (Age of lost child): 06 days

Obstetric chart:

Sl N0	Pregnancy				Labour			Puerperium	Baby			
	Year of deliverey	Duration	ANC	Normal/ Complication	Place	Mode	Normal/ complication	N/C	Sex	Status	Feeding	Immunization
1	2017	40	Regular	Normal	Hospital	Vaginal	normal	Normal	Female	Alive	yes	yes

Mesntural History:

Age of Menerche: 13 years

MP/MC: 6/ 28 (±2) days

Menstrual flow: Average

1st day of LMP:

EDD:

H/O Past illness:

She has no HTN, DM, bronchial asthma, TB or any surgical procedure.

Drug history:

She had taken calcium and iron tablet irregularly, couldn't mention the dose and duration.

Contraceptive history:

Practised: Condom

Last use: Before …(Date)

Personal history:

She is non-smoker and non alcoholic.

Family history: All other members of her family enjoying good health.

Socio-economic condition: She belongs to a middle class family.

Immunization history: She has got TT vaccine in full dose.

General Examination:

Appearance: Normal

Body built: Average

Cooperation: Cooperative

Nutritional status: Average

Anaemia: +

Jaundice: Absent

Skin condition: Normal

Oedema: Absent

Dehydration: Absent

Temperature: 99^0 F

Pulse: 84/min

BP: 130/80 mm of hg

Respiratory rate: 18/min

Thyroid gland: Not enlarged

Per Abdominal examination:

Inspection:

Shape: Scaphaoid. There is a dressing over the wound in lower part of the abdomen which is not soaked. Abdominal skin is loose and dark.

Umbilicus: centrally placed and inverted

Linea nigra and stria albicans: Present

Skin is loose

No visible palsation

Palpation:

Abdomen is soft, non-tender and wound area is mildly tender. The wound is healthy.

SFH:

Auscultation:

Bowel sound: Present

Per vaginal examination: Not done [Findings: If done, Pad is soaked and shows reddish colour. No foul smell]

Breast examination: Not done [If done, **Findings:** Both breasts and nipples are healthy looking]

CVS examination:

Heart sound: 1st and 2nd heart sounds are audible in all four areas

Added sounds: Absent

Respiratory system examination:

Breath sound: Vesicular with prolonged expiration

Added sound: Absent

Examination of the baby:

Sex: Female

Age: 06 days

Birth weight: 3 kg

Length: 52 cm

Head circumstance: 35 cm

Skin colour: Pink/normal

Jaundice: Absent

Dehydration: Absent

Umbllical condition: Healthy [Dry and periumbilical region isn't swollen]

Congenital anomaly: Absent

HR: 120/min

RR: 50/min

Reflexes: Sucking, moro rooting- all are present.

Salient Feature:

Mrs. Nsima Para 1+0, 21 years old, normotensive, non diabetic, non-alcohol muslim housewife, hailing from Gouripur, Mymensingh had caesarean section 5 days back, She was admitted at her 41th weeks of pregnancy. Her EDD was 11April, 2017. Now she has slight pain around the incision area. Now she has slight per vaginal discharge reddish in colour, average in amount, not foul smelling. She changes 1-2 pads per day. She has no complains of fever, pain in the breast, nipple is normal and no burning sensation of micturition, bowel habit is normal and no leg pain. Her baby is on exclusive breast feeding. On general examination, she is mildly anaemic, Jaundice, cyanosis absent, Pulse 84/min, BP 130/80 mm of Hg, temperature 98^0 F, RR-18/min, no dehydration and oedema. On abdominal examination, abdomen

is scaphoid shaped, a dressing over the wound in lower part of the abdomen which is not soaked. Abdominal skin is loose and dark, linia nigra and stria gravidarum present, SFH is ..cm which corresponds height of uterus is .....cm which corresponds to the day of puereperium. Other system examination reveals no abnormality. Her baby is 06 days of age, female, pink is on exclusive breast feeding, HR 120/min, RR50/min, all reflexes are normal, no congenital anomaly.

Diagnosis:

A case of 6th day of normal puerperium following caesarean section due to post dated pregnancy.

Or,

A case of 5th post-operative day (POD) of normal puerperium following caesarean section due to post dated pregnancy.

Investigations:

4. Hb%
5. Urine RME
6. **RBS:** If H/O DM

Treatment:

Treatment:

1. Bed Rest
7. Nutritous diet
8. **Antibiotic:**
   - ✓ Cap. Amoxicillin 500 mg 8 hourly
   - ✓ Tab. Metronidazole 400mg 8 hourly
9. **Analgesic:** Paracetamol or ketorolac 10mg
10. **PPI:** Omeparazole 20 mg BD
11. Fe, Folic acid and calcium supplement (for 3 months).

Advice:

1. Nutritous diet (2 times more than normal)
2. Adequate intake of water
3. Abstrinence from coitus for 6 weeks
4. **Contraceptive advice:**
   - ✓ **Lactating:** POP from 6 weeks to onwands

- ✓ **Non lactating:** 4 weeks to onwands
- ✓ Implant (5 y)

5. If any problem, consult with physician
6. Avoid heavy work for 3 months
7. Maintain personal Hygiene
8. Post natal check up after 6 weeks
9. Birth spacing: 2 years
10. **For baby:**
    - ✓ Exclusive breast feeding
    - ✓ Start immunization according to EPI

Stitch off:

Alternate: 6th POD

All: 7th POD

Or,

Transverse→ 7th POD

Vertical→ 8th POD

Regime of antibiotic for CS:
a) Inj. Amoxicillin 1 gm 8 hourly + Inj. Metronidazole 500 mg IV (3 doses)
OR

Inj. Cephalosporine 1 gm 6 hourly (4 doses) + Inj. Metronidazole 500 mg (3 doses)
OR Inj. Ceftriaxone 1 gm (single dose)+ Inj. Metronidazole 500 mg (3 doses)
b) Followed by: Cap. Amoxicillin 500 mg 8 hourly or Cap. Cephaloxporine 500 mg 6 hourly for 5 days

NORMAL PUERPERIUM (Following C/S) (Foetal distress)

Particulars of the patient:

Name: Nasima Begum

Age: 21 years

Occupation: Housewife

Religion: Islam

Address: Gouripur, Mymenshing.

Ward no: 5/2

Bed no: 06

Date and time of admission: 17.04.17

Date and time of examination: 22.04.17

Chief Complaints:

1. History of caesarean section 5 days back.
2. Pain around the incision area for 4 days.

History of present illness:

According to statement of the patient she was pregnant for 40 weeks. Regarding her antenatal history, she was in her regular/irregular antenatal check up and her pregnancy period was uneventful. She was immunized properly against tetanus. 5 days back, she developed **lower abdominal pain for 12 prior to her admission, severe, spasmotic in nature which was increasing in duration and frequency and associated with reddish mucous discharge (Show)/ labour pain** and from 4 hours prior to admission there was per vaginal watery discharge **(/membrane was ruptured)**, was admitted to MMCH on 17.04.17. Dai handled her at home and when labour was not progressing, she came to hospital for delivery. After admission, the doctors said that condition of foetus was not good, so caesarean section was performed on the same day at 3.00pm. Now she has slight pain around the incision area. Now she has slight per vaginal discharge reddish in colour, average in amount, not foul smelling. She changes 1-2 pads per day. She has no complains of fever, pain in the breast, nipple is normal and no burning sensation of micturition, bowel habit is normal and no leg pain. Her baby is on exclusive breast feeding.

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Married for: 2 years

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ALC (Age of lost child): 06 days

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Mesntural History:

Age of Menerche: 13 years

MP/MC: Regular/ 28 (±2)

Menstrual flow: Average

1st day of LMP:

EDD:

H/O Past illness:

She has no HTN, DM, bronchial asthma, TB or any surgical procedure.

Drug history: She had taken calcium and iron tablet irregularly, couldn't mention the dose and duration.

Contraceptive history:

Practised: Condom

Last use: Before …(Date)

Personal history: She is non-smoker and non alcoholic.

Family history: All other members of her family enjoying good health.

Socio-economic condition: She belongs to a middle class family.

Immunization history: She has got TT vaccine in full dose.

General Examination:

Appearance: Normal

Body built: Average

Cooperation: Cooperative

Nutritional status: Average

Anaemia: +

Jaundice: Absent

Skin condition: Normal

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Respiratory rate: 18/min

Thyroid gland: Not enlarged

Per Abdominal examination:

Inspection:

Shape: Scaphaoid. There is a dressing over the wound in lower part of the abdomen which is not soaked. Abdominal skin is loose and dark.

Umbilicus: centrally placed and inverted

Linea nigra and stria albicans: Present

Skin is loose

No visible palsation

Palpation:

Abdomen is soft, non-tender and wound area is mildly tender. The wound is healthy.

SFH:

Auscultation:

Bowel sound: Present

Per vaginal examination: Not done [If done, **Findings:** Pad is soaked and shows reddish colour. No foul smell]

Breast examination: Not done [If done, Findings: Both breasts and nipples are healthy looking]

CVS examination:

Heart sound: 1st and 2nd heart sounds are audible in all four areas

Added sounds: Absent

Respiratory system examination:

Breath sound: Vesicular with prolonged expiration

Added sound: Absent

Examination of the baby:

Sex: Female

Age: 06 days

Birth weight: 3 kg

Length: 52 cm

Head circumstance: 35 cm

Skin colour: Pink/normal

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Dehydration: Absent

Umbllical condition: Healthy [Dry and periumbilical region isn't swollen]

Congenital anomaly: Absent

HR: 120/min

RR: 50/min

Reflexes: Sucking, moro rooting- all are present.

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1. Hb%
2. Urine RME
3. **RBS:** If H/O DM

Treatment:

1. Bed Rest
2. Nutritous diet
3. **Antibiotic:**
    - ✓ Cap. Amoxicillin 500 mg 8 hourly
    - ✓ Tab. Metronidazole 400mg 8 hourly
4. **Analgesic:** Paracetamol or ketorolac 10mg
5. **PPI:** Omeparazole 20 mg BD
6. Fe, Folic acid and calcium supplement (for 3 months).

Advice:

Advice:

1. Nutritous diet (2 times more than normal)
2. Adequate intake of water
3. Abstrinence from coitus for 6 weeks
4. Contraceptive advice:
    - ✓ **Lactating:** POP from 6 weeks to onwands
    - ✓ **Non lactating:** 4 weeks to onwands
    - ✓ Implant (5 y)
5. If any problem, consult with physician
6. Avoid heavy work for 3 months
7. Maintain personal Hygiene
8. Post natal check up after 6 weeks
9. Birth spacing: 2 years
10. **For baby:**
    - ✓ Exclusive breast feeding
    - ✓ Start immunization according to EPI

INTRAUTERINE FETAL DEATH (IUD)

Particulars of the patient:

Name: Mrs. Priyanka

Occupation: Housewife

Religion: Islam

Address: Brahmopalli, Mymensingh

Date and Time of Admission:

Date and time examination:

Bed No.:

Ward No.:

Reg. No.:

C/C:

1. Pregnancy / Amenorrhoea for 36 weeks
2. Absence of fetal movement for 2 days

History of Present illness:

According to statement of the patient she is pregnant/amenorrhoeic for about 36 weeks. She had regular/no antenatal check up and her antenatal period was uneventful. She was used to perceive the foetal movement from 5months of gestational age and onwards. But from last two days she couldn't notice any fetal movement. She has no history of any per vaginal bleeding, fever, burning sensation of micturition, leg pain or any breast discomfort. Her bowel and bladder habits are normal.

Obstetric History:

Married for:

Para:

Gravida:

Age of last child:

Obstetric chart:

Sl N0	Pregnancy				Labour			Puerperium	Baby			
	Year of delivery	Duration	ANC	Normal/ Complication	Place	Mode	Normal/ complication	N/C	Sex	Status	Feeding	Immunization

Menstrual History:

Age of Menarche: 13 years

MP/MC: 7/ 28 (±2) days

Menstrual flow: Average

1st day of LMP:

EDD:

Contraceptive history:

Practiced: Condom

Last use: Before …(Date)

History of past illness: She has no history of

-DM

-HTN

-Rhematic heart disease

- Renal disease

- Thyroid disorder

- Any Chronic illness.

Drug History: She had taken calcium and iron tablet irregularly, couldn't mention the dose and duration

Family History:

- No other member of her family suffered from suck kind of illness
- No other member of her family suffered from HTN, DM. TB asthma.

Personal History: Non, Smoker, non-alcholic

Immunization History: She gas got TT vaccine in full dose.

Socio-economic history: Middle class

GENERAL EXAMINATION:

Appearance: Normal

Body built: Average

Co-Operation: Co-Operative

Nutritional status: Average

Anaemia: +

Jaundice: Absent

Skin condition: Normal

Oedema: Absent

Cyanosis: Absent

Pulse: 80/min

BP: 120/80 min

RR: 16/ min

Temperature: 99^0F

Dehydration:-

Oedema: -

Breast examination: Not done

Thyroid gland: Not enlarged

SYSTEMIC EXAMINATIONS:

Per-abdomen:

Inspection:

- ✓ Abdomen is distended, umbilicus is centrally placed
- ✓ Skin of abdomen is tensed
- ✓ Stria gravidarum, linea nigra present

Palpation:

Symphysiofundal height: 34 weeks which is smaller than gestational age.

Feeling of uterus: Flaccid, soft and relaxed

Fundal grip: Broad, soft, irregular breech.

Lateral grip: Irregular knob like limbs on right side and smooth, curved, resistant lack on its left side.

Pelvic grip:

- ✓ Rounded smooth, hard, ballotable head
- ✓ No engaged

Auscultation: No audible fetal heart sound in repeated examination

Pelvic examination: Not done

Other system examination: NAD

Salient feature:

Mrs. Priyanka, 28 years of age primi gravida, muslim housewife, normotensive, non-diabetic, non-smoker, non-alcoholic hailing from Brahmopolli, Mymensingh admitted to MMCH with the complaints of she is pregnant/amenorrhoiec for 36 weeks. She had regular/no antenatal check up and her antenatal period was uneventful. She was used to perceive the foetal movement from 5 months of gestational age and onwards. But from last two days she couldn't notice any fetal movement. She has no history of any per vaginal bleeding, fever, burning sensation of micturition, leg pain or any breast discomfort. Her bowel and bladder habits are normal. On general examination, she is mildly anaemic, pulse 80/min, BP 120/80 mm of Hg, RR 16/min, temperature 99^0F, no dehydration, no ankle oedema. No history of any bowel-bladder abnormality. On examination, per abdomen SFH 34 weeks which is smaller than gestational age, Feeling of uterus is Flaccid, soft and relaxed, presentation is vertex with Occipito-posterior position, head is not engaged, No audible fetal heart sound in repeated examination. Pelvic examination not done and other system examination reveals no abnormality.

Provisional diagnosis: Primi gravida 36 weeks pregnancy with intra uterine fetal death.
D/D: Missed abortion
Investigations:

1. TC, DC, ESR, Hb%
2. Blood grouping and Rh typing
3. RBS
4. HbA1C
5. VDRL
6. S. Creatinine
7. Thyroid profile
8. Urine RME
9. USG of pregnancy profile

Tteatment:

1. **Where the cervix is favorable***: Oxytocin infusion.*
2. **Where the cervix is unfavorable** *Prostaglandins.*

INTRAUTERINE FETAL DEATH (IUD)

Definition:

Antepartum death occurring beyond the period of viability is termed as intrauterine death

But death of a fetus weighing less than 500 gram (before 22 weeks) has got a distinct etiology and is usually termed as abortion.

[Dutta-322]

Etiology

A. Maternal (5–10%)

1. **HTN** disorders in pregnancy
2. **DM** in pregnancy
3. Maternal **infections** :
   - ✓ Malaria
   - ✓ Hepatitis
   - ✓ Influenza
   - ✓ Toxoplasma
   - ✓ Syphilis
4. **Hyperpyrexia**: Temp > 39.4°C
5. Antiphospholipid syndromes **(APS)**
6. **Thrombophilias**: Factor V Leiden, protein C, protein S-deficiency, hyperhomocysteinemia. Mechanism of IUFD is similar to (APS)
7. **Abnormal labor**:
   - ✓ Prolonged
   - ✓ Obstructed labor
   - ✓ Ruptured uterus
8. **Post-term pregnancy**
9. **SLE**

B. Fetal (25–40%)

1. **Chromosomal** abnormalities
2. Major **structura**l anomalies
3. **Infections** (virus, bacteria, chorioamnionitis).
4. **Rh**-incompatibility
5. Non-immune **hydrops**
6. **Growth** restriction

C. Placental (20–35%)

1. **APH:** By producing acute placental insufficiency
2. **Cord accident** (prolapse, true knot, cord round the neck)
3. **Twin to twin transfusion syndrome (TTTS)**
4. **Placental insufficiency**

D. Idiopathic (25–35%) : Cause remains unknown even with thorough clinical examination and investigations.

E. Iatrogenic

1. External cephalic version
2. Drugs (quinine beyond therapeutic doses)

[Dutta-323]

Morbid pathology:

- ✓ The dead fetus undergoes an aseptic degenerative process called maceration.
- ✓ The epidermis is the first structure to undergo the process, whereby **blistering and peeling off of the skin occur**. **It appears between 12–24 hours after death**.
- ✓ The fetus becomes swollen and looks dusky red. Gradually aseptic autolysis of the ligamentous structure and liquefaction of the brain matter and other viscera take place.
- ✓ The changes vary in degree and are responsible for the characteristic radiological signs.

[Dutta-323]

Diagnosis: Repeated examinations are often required to confirm the diagnosis.

A. Symptoms: **Absence of fetal movements** which were previously noted by the patient.

B. Signs:

1. Retrogression of the positive breast changes that occur during pregnancy is evident after variable period following death of the fetus.
2. **Per abdomen**
   - ✓ **Fundal height:** Gradual retrogression making it smaller than the period of amenorrhea.
   - ✓ **Uterine tone:**
     - ➢ Diminished and the uterus feels flaccid.
     - ➢ Braxton-Hicks contraction is not easily felt.
   - ✓ **Fetal movements:** Not felt during palpation.
   - ✓ **Fetal heart sound:** Absent. Doppler ultrasound is better than the stethoscope.
   - ✓ **Egg-shell crackling feel of the fetal head:** Late feature.

C. Investigations

1. Sonography: Earliest diagnosis is possible with sonography.

Findings:

- ✓ **Lack of all fetal motions** (including cardiac): during a 10 minute period of careful observation with a real-time sonar is a strong presumptive evidence of fetal death
- ✓ **Oligohydramnios** and **collapsed cranial bones:** Become gradually evident.

3. **Straight X-ray abdomen**: **Rarely done** at present.

Features:

- ✓ **Spalding sign :**
  - ➢ Irregular overlapping of the cranial bones on one another.
  - ➢ Due to liquefaction of the brain matter and softening of the ligamentous structures supporting the vault.
  - ➢ Usually appears 7 days after death.
  - ➢ Similar features may be found in extra-uterine pregnancy with the fetus alive.
- ✓ **Hyperflexion of the spine:** More common. In some cases hyperextension of the neck is seen.
- ✓ **Crowding of the ribs shadow** with loss of normal parallelism.

- ✓ **Robert's sign:** Appearance of gas shadow in the chambers of the heart and great vessels **Blood**: When the fetus is retained for more than 2 weeks

4. Blood fibrinogen level
5. Partial thromboplastin time

[Dutta-323-34]

Management:

A. Expectant attitude/non-interference:

- ✓ In about 80% of cases, spontaneous expulsion occurs within 2 weeks of death.
- ✓ The patient may remain at home with the advice to come to the hospital for delivery. Fibrinogen estimation should be done weekly.

B. **Interference:**

Indications:

1. Psychological upset of the patient—common
2. Manifestations of uterine infection
3. Tendency of prolongation of pregnancy beyond 2 weeks
4. Falling fibrinogen level (rare)

Methods of delivery: The delivery should always be done by medical induction.

1. **Where the cervix is favorable***: Oxytocin infusion.*
   - ✓ In case of failure, an escalating dose of oxytocin is used on the next day.
   - ✓ If the uterus still remains refractory, the same procedure is repeated after vaginal administration of prostaglandin gel.
2. **Where the cervix is unfavorable** *Prostaglandins*.
   - ✓ Vaginal administration of prostaglandin (PGE2) gel or lipid pessary high in the posterior fornix.
   - ✓ If fails, the procedure may be supplemented with oxytocin infusion.

[Dutta-324-25]

Complications:

1. **Psychological upset**
2. **Infection**:
   - ✓ So long as the membranes are intact, infection is unlikely
   - ✓ But once the membranes rupture, infection, especially **by gas forming organisms like** *Cl. welchii* **may occur**.
   - ✓ The dead tissue favors their growth with disastrous consequences.
3. **Blood coagulation disorders (rare)**:
   - ✓ If the fetus is retained for more than 4 weeks (10–20%), there is a possibility DIC.
   - ✓ **It is due to** gradual absorption of thromboplastin, liberated from the dead placenta and decidua, into the maternal circulation.
4. **During labor**:
   - ✓ Uterine inertia
   - ✓ Retained placenta
   - ✓ Postpartum hemorrhage.

[Dutta-324-25]

How APS causes IUD?

Presence of lupus anticoagulant (LA), anticardiolipin antibodies (ACA) → decidual vasculopathy with fibrinoid necrosis, placental vascular atherosis and intervillus thrombosis → IUFD

What is the place of cesarean section in a case with IUFD?

- ✓ Very rare.
- ✓ **Indications**: Central placenta previa and previous cesarean scar (two or more).

What is the evaluation protocol of the stillborn?

- ✓ **Infant examination:** Malformations, maceration
- ✓ **Umbilical cord:** Entanglement of cord, number of cord vessels, cord prolapse, true knot
- ✓ **Placenta:** Abnormalities and meconium staining.

CARCINOMA OF THE CERVIX

Particulars of the patient:

Name: Mrs. Kajol

Age: 50 years

Occupation: Housewife

Religion: Islam

Address: Gulshan-1, Dhaka

Date and Time of Admission:

Date and time examination:

Bed No.:

Ward No.:

Reg. No.:

C/C:

1. Irregular pervaginal bleeding for 1 year
2. Post coital bleeding for for 1 year
3. Per vaginal discharge for 6 months

History of present illness:

According to statement of the patient, she was reasonably well 1 year back. Then she noticed irregular pervaginal bleeding for 1 year which has become excessive in last 3 months occurring at interval of about 5-10 days lasting for 2-3 days. She also complained of post-coital bleeding for 1 year. She is also suffering from per vaginal discharge which is initially scanty but increasing in amount gradually, brownish, offensive and blood stained. She also has reduced appetite, weakness and loss of weight. Bowel bladder habit is normal. No H/O of chest pain, vomiting out of blood, yellow colouration of skin and sclera, no bone pain. With this above situation she has got admitted to MMCH for better management.

Menstrual History:

Age of Menarche: 13 years

Menopausal for: 6 years (If menopaused)

Obstetric History:

Married for:

Para:

Age of last child:

Obstetric chart:

Sl N0	Pregnancy				Labour			Puerperium	Baby			
	Year of deliverey	Duration	ANC	Normal/ Complication	Place	Mode	Normal/ complication	N/C	Sex	Status	Feeding	Immunization

History of past illness: She has no history of

-DM

-HTN

- Renal disease

- Thyroid disorder

- Any Chronic illness.

Family History:

- No 1st degree relative suffers from such kind of illness
- No other member of her HTN, DM, TB, asthma etc.

Drug history: Nothing contributory

Socio-economic history: Middle class

Personal History: Non-Smoker, non-alcoholic

Immunization history: She isn't immunized.

Contraceptive history: Doesn't use any contraceptive

GENERAL EXAMINATION:

Appearance: Ill looking

Body built: Average/Cachexia in Ca

Co-Operation: Co-Operative

Nutritional status:

Anaemia: +

Jaundice: Absent

Skin condition: Normal

Oedema: Absent

Cyanosis: Absent

Pulse: 80/min

BP: 120/80 min

RR: 16/ min

Temperature: 99^0F

Lymph node: Not palpable

Dehydration:

Oedema:

Breast examination: Not done

Thyroid gland: Not enlarged

SYSTEMIC EXAMINATION:

Abdominal examination:

Inspection:

- ✓ Size and shape of abdomen is normal
- ✓ Umbilicus in invented and centrally placed
- ✓ Striae albicans present
- ✓ No scar mark, engorged vein.

Palpation:

- ✓ Temperature normal
- ✓ No local tenderness, no muscle rigidity
- ✓ No palpable mass
- ✓ No organomegaly

Percussion: Resonant

Auscultation:

- ✓ Bowel sound is audible
- ✓ No bruit.

Pelvic examination: Not done

Other system examination: NAD

Salient feature:

Mrs. Kajol, 50 years old, Muslim housewife Para..... . ALC.....years, post-menopausal, normotensive, non-diabetic, non-smokes, non-alcoholic hailing from Gulshan-1, Dhaka admitted to MMCH on ....., 2017 with the complaints of irregular pervaginal bleeding for 1 year which has become excessive in last 3 months occurring at interval of about 5-10 days lasting for 2-3 days. She also complained of post-coital bleeding for 1 year. She is also suffering from per vaginal discharge which is initially scanty but increasing in amount gradually, brownish, offensive and blood stained. She also has reduced appetite, weakness and loss of weight. Bowel bladder habit is normal. No H/O of chest pain, hemoptysis, jaundice, no bone pain. On general examination, she is mildly anaemic, pulse 80/min, BP

120/80 mm of Hg, RR 16/min, temperature 99^0F, no dehydration, no ankle oedema. Abdominal and other system examination revealed normal and PV examination was not done.

Provisional dx: Cercinoma of cervix

D/D:

1. Endometrial carcinoma
   Points in favour: Post menopausal bleeding
   Points against:
   - ✓ Foul smelling PV discharge
   - ✓ Patient is non-diabetic, normotensive and cachectic.
2. Myomatous/fibroid polyp

Investigation:

Routine:

1. CBC
2. Blood grouping and Rh typing
3. RBS
4. Fasting lipid profile
5. S. Creatinine
6. Urine RME
7. ECG

For diagnosis: Cervical Biposy and histopathology

For staging:

1. USG of Whole Abdomen
2. CXR PA view
3. Cystoscopy
4. Sigmoidoscopy

Treatment:

1. Radiotherapy
2. Surgery upto stage IIA
3. Chemotherapy
4. Combination

CARCINOMA OF THE CERVIX

The cervix is the commonest site for female genital cancer.

Aetiology

1. **Age:**
   - ✓ Invasive cancer of the cervix is reported at all ages, even at birth.
   - ✓ Peaks: At about 35 years and at about 50-55 years.
2. **Race:**
   Muslims and Orthodox Jewesses: Less incidense.

   Explained by: Husbands are subjected to

   - ✓ Ritual circumcision in childhood
   - ✓ Observance of a high moral code
   - ✓ Strict avoidance of coitus during and after menstruation when the cervical epithelium might be more vulnerable.
   - ✓ Familial
3. **Social and Economic Factors:** Invasive carcinoma of the cervix is 20 times more common amongst the wives of unskilled labourers than it is in those of professional men.
   Possible operating factors:

   - ✓ Low standards of cleanliness (including penile hygiene)
   - ✓ Coitus or marriage at an early age
   - ✓ Frequency of sexual intercourse, and promiscuity of both partners.
4. **Coitus:**
   - ✓ Sexually active woman is **two to four** times more likely than is the sexually inactive woman.
   - ✓ The earlier the age of first intercourse, the more the partners, and the more promiscuous the partners, the greater the risk.
5. **Childbearing:**
   - ✓ 95% of invasive cancers occur in multiparae
   - ✓ Not due to cervical injury or infection during labour but by the sexual intercourse which results in the pregnancies.
6. **Cervical Irritation and Infection:**
   - ✓ Herpes simplex virus (type 2) and human papillomavirus (HPV) in the vagina.
   - ✓ HPV types 16, 18, 31 and 45 account for 80 per cent of cervical carcinoma; HPV 16 is associated with 50 per cent of cases.
7. **Oestrogens:** While an excessive and unbalanced oestrogen stimulation favours the development of cancer of the cervix in certain lower animals, this is not established for women.

Predisposing Histological States:

- ✓ Basal cell hyperplasia
- ✓ Squamous cell metaplasia
- ✓ CIN: only likely to be significant forerunners of invasive carcinoma

[Jeffcoate's-467-69]

High-risk males:

Men in jobs which require frequent travel and those whose first wives died of cancer cervix constitute a group termed as 'high-risk males'.

[Jeffcoate's-468]

How Spermatozoa are themselves carcinogens?

1. Cancer does not arise in fully established epithelium but in 'replacement' epithelium.
2. The columnar cells at the junctional or transformation zone are continually being replaced by squamous cells which are differentiated from reserve cells or from underlying stroma.
3. If, during this process, they are provided with additional nuclear material from the heads of absorbed spermatozoa, this acts as a mutagen causing chromosomal aberrations and atypical epithelial activity.
4. The cervix of the adolescent is especially prone to such metaplasia and this would explain the special danger of coitus in youth.

[Jeffcoate's-468]

How barrier method, IUD and oral pill relates to Ca cervix?

- ✓ Barrier methods, such as use of a condom or vaginal diaphragm, may have been protective in more than one or two senses.
- ✓ 'The pill' and intrauterine contraceptive devices, however, not only allow direct contact with the carcinogens but favour more frequent coitus and with more partners.
- ✓ Moreover, the oral contraceptives themselves may tend to make the cervical epithelium unstable.

[Jeffcoate's-468]

How does HPV cause Ca cervix?

The papillomaviruses are implicated probably in the same way as spermatozoa, by initiating changes in cervical cells during an unstable stage of their life cycle and therefore acting as mutagens or co-factors.

Why does prolapsed cervix not affected by Ca although exposed to constant mechanical irritation?

Its displacement removed it from the environment of a vagina made harmful by 'exudates'.

Types of Cancer/Pathology:

1. **Exophytic:** These arise from the ectocervix and form friable masses almost filling up the upper vagina in late cases
2. **Ulcerative:** The lesion excavates the cervix and often involves the vaginal fornices.
3. **Infiltrative:**
   - ✓ Found in endocervical growth.
   - ✓ They cause expansion of the cervix, so that it becomes barrel-shaped.

Histopathology:

1. **Squamous cell carcinoma (90%):** Squamous cell carcinoma usually starts in the area of the squamo-columnar junction.
   - ✓ Large cell keratinizing
   - ✓ Large cell non-keratinising
   - ✓ Small cell type
2. **Adenocarcinoma (10–15%):** Develops from the endocervical canal, either from the lining epithelium or from the glands.
3. **Mixed:** Adeno-squamous

[Dutta-325-26+ Jeffcoate's-470]

Histopathologic Grades (G):

1. **GX** : Grade cannot be assesssed
2. **G1:** Well differentiated
3. **G2 :** Moderately differentiated
4. **G3 :** Poorly or undifferentiated

[Jeffcoate's-470]

Spread:

Direct Extension:

1. Body of the uterus
2. Vaginal wall
3. Bladder
4. Cellular tissues of the broad and uterosacral ligaments.
5. Direct invasion of the rectum is rare because the pouch of Douglas intervenes.
6. In the broad ligament the growth surrounds and constricts the lower ends of the ureters but does not invade them.
7. When it reaches the pelvic wall and the sacral plexus, it causes sciatic pain but the nerves and their sheaths are never demonstrably penetrated.

Lymphatic Permeation and Embolism:

1. Bases of the broad ligaments and in the uterosacral ligaments
2. **Nodes:**
   - ✓ Most commonly: Obturator, external iliac and those at the bifurcation of the common iliac vessels.
   - ✓ Others: Internal iliac, common iliac, sacral and ultimately the para-aortic nodes.

Bloodstream:

- ✓ Much less frequently
- ✓ Embolic metastases are occasionally seen in the ovary, brain, bones and lungs.
- ✓ The occurrence of distant metastases without simultaneous involvement of the lungs is explained by the transfer of cancer cells by the vertebral venous plexus.

[Jeffcoate's-471]

Staging (No need :-D)

FIGO staging of Ca cervix:

0 CIN (preinvasive carcinoma)

I Confined to uterus

IA Invasive carcinoma diagnosed only by microcopy.

IAI Stromal invasion no greater than 3.0 mm in depth and 7.0 mm or less in horizontal spread

IA2 Stromal invasion more than 3.0 mm and not more than 5.0 mm with a horizontal spread 7.0 mm or less

IB Clinically visible lesion confined to the cervix or microscopic lesion

IB1 Clinically visible lesion 4.0 cm or less in greatest dimension

IB2 Clinically visible lesion more than 4 cm in greatest dimension

II Tumour invades beyond the uterus but not to pelvic wall or to lower third of the vagina

IIA Without parametrial invasion

IIB With parametrial invasion

III Tumour extends to pelvic wall and/or involves lower third or vagina and/or causes hydronephrosis or non-functioning kidney

IIIA Tumour involves lower third of vagina no extension to pelvic wall

IIIB Tumour extends to pelvic wall and/or cause hydronephrosis or non-functioning kidney

IVA Tumour invades mucosa of bladder or rectum and/or extends beyond true pelvis

IVB Distant metastasis M1

Which one is more important? Staging or grading?

Staging, as it is done clinically. Grading is histopathological diagnosis.

Management of Ca cervix:

Patient Profile:

- ✓ Usually multiparous, in pre-menopausal age group.
- ✓ Previous history of postcoital or intermenstrual bleeding which they ignored.

Symptoms:

1. **Irregular or continued vaginal bleeding**
2. **Offensive vaginal discharge**:

✓ At first **creamy or white** but subsequently resembles **dirty brown** water

✓ **Odour:**

- Offensive and characteristic
- Caused by an infection of necrotic tissue with saprophytes.

3. **Pelvic pain:** Either due to involvement of uterosacral ligament leading to backache or deep seated pain due to involvement of sacral plexus.
4. **Leg edema:** Due to progressive obstruction of lymphatics and/or iliofemoral veins by the tumor.
5. **Bladder symptoms:**
   - ✓ Frequency of micturition
   - ✓ Dysuria
   - ✓ Hematuria
   - ✓ Even true incontinence due to fistula formation.
6. **Rectal symptoms:**
   - ✓ Diarrhea
   - ✓ Rectal pain
   - ✓ Bleeding per rectum
   - ✓ Even rectovaginal fistula
7. **Ureteral obstruction:**
   - ✓ Due to progressive growth of tumor laterally.
   - ✓ There may be frequent attacks of pyelonephritis due to ureteric obstruction.

Signs:

On general examination:

- ✓ Cachexia
- ✓ Anemic
- ✓ Edema in legs

Abdominal examination: May reveal enlarged uterus due to-

- ✓ Haematometra
- ✓ Pyometra
- ✓ Associated pregnancy
- ✓ Associated fibroid

Vaginal examination:

Speculum examination:

- ✓ Enlarged and irregular
- ✓ Ulcerated and excavated
- ✓ Completely destroyed
- ✓ Replaced by hypertrophied mass
- ✓ Bleeding on touch

Bimanual examination:

- ✓ **Cervix:**
  - Enlarged, hard, fixed, friable and bleeds on touch
  - **Cardinal signs:**
    - ❖ Fixation
    - ❖ Hardness
    - ❖ Friability
    - ❖ Bleeding on examination
- ✓ **Vagina:**
    - ❖ Involvement of fornices, upper parts or lower parts.
    - ❖ Parametrial tissue and lateral pelvic wall may be involved,

Rectal examination: In malignancy, the induration is nodular.

D/D: The growth needs to be differentiated from:

1. Fibroid polyp
2. Cervical tuberculosis
3. Syphilitic ulcer
4. Cervical ectopy
5. Products of conception in incomplete abortion.

Investigation:

1. Cervical biopsy
2. Cystoscopy
3. Proctoscopy
4. IVU
5. CT/PET scan
6. CXR

7. Others:
    - ✓ CBC
    - ✓ Blood grouoing and Rh typing
    - ✓ RBS
    - ✓ Serum creatinine, urea
    - ✓ Urine RME

Treatment:

1. **Radiotherapy:** For all stages
2. **Surgery**: [LVSI=Lymphovascular space invasion]
   Stage IA1 without LVSI:

   If fertility is desirable: Cone biopsy

   If family is complete: Extrafascial total abdominal hysterectomy (Type I hysterectomy)

   Stage IA1 with LVSI and stage 1A2: Type II (modified radical) hysterectomy and pelvic node dissection.

   Stages IB and IlA: Radical (Type III) hysterectomy

3. **Chemotherapy:** Single agents used are-
    - ✓ Cisplatinum
    - ✓ Bleomycin
    - ✓ Ifosfamide
    - ✓ Methotrexate
4. **Combination**s

[Dutta-330-32+ Jeffcoate's-471-83]

Follow up:

1. 3 monthly for 1st 2 years : 80% recurrence occur in this period
2. 6 monthly for 5 years
3. 1 yearly for rest of life

[Nurjahan-110]

What thing will you see during follow up?

1. Careful history taking
2. Ask for any symptoms of recurrence e.g. PV bleeding, foul smelling PV discharge, mass in abdomen etc.
3. Examination of patient
4. Investigation: Pap's smear/colposcopy

When and why should the surgery be done after radiotherapy?

Surgery should be done 6 months after radiotherapy as radiation causes fibrosis.

Complications:

1. **Pyometra:** The cancer obstructs the cervical canal and is also a focus of infection.
2. **Vesicovaginal and vesico cervical fistulas**
3. **Rectovaginal fistula:** Rare in untreated cases.
4. **Hydronephrosis and pyonephrosis:** Caused by ureteric obstruction
5. **Uraemia:** Caused by renal failure due to a combination of infection and ureteric obstruction.
6. **Haemorrhage**

[Jeffcoate's-472]

Causes of death: In their order of frequency and importance used to be:

1. Uraemia
2. Cachexia associated with recurrent haemorrhage
3. Infection and interference with nutrition
4. Complications of treatment
5. Remote metastases in vital organs (rare)

[Jeffcoate's-472]

Radiotherapy:

Treatment of choice in the majority of cases and is applicable at all stages of the disease.

Mechanism of action:

Gamma-rays act by damaging the nuclear structures in actively dividing cells and by inducing a fibrous tissue and protective reaction in the host tissue.

Techniques:

1. **Teletherapy:** Radiation is delivered from a source at a distance from body.
2. **Brachytherapy:** Radiation source is placed within a target volume to treat the central disease.

Complications of Radiotherapy:

The morbidity resulting from properly conducted radiotherapy is minimal but major complications are sometimes caused by overdosage or technical errors.

A. **Perforation of the uterus:** May occur at the time of insertion of the uterine tandem.
B. **Morbidity during Treatment:** Caused by the effects of ionizing radiation on the bowel mucosa.
   - ✓ Diarrhoea
   - ✓ Abdominal cramps

- ✓ Nausea
- ✓ Bleeding from the bowel (Occasionally)

(A lowgluten, low-lactose, low-protein diet should be prescribed)

- ✓ Haematuria (uncommon)

C. Late Effects:

These are related to the continued arteritis and fibrosis which is a consequence of radiation therapy. In the area treated, the small and large bowel are the most Radiosensitive.

1. **Proctitis**
2. Impaired function and narrowing of the bowel with subacute or acute **obstruction:** Due to fibrotic and vascular changes
3. **Perforation** of the bowel and **fistula** formation : Due to necrosis
4. **Haematuria :** due to superimposed infection.
5. **VVF** and **RVF**
6. Loss of ovarian function associated with menopausal symptoms
7. **Narrowing** and shortening of the vagina
8. **Coital difficulties**

[Jeffcoate's-479-80]

Carcinoma of cervix and Pregnancy:

Diagnosis is often late. Cone biopsy may be necessary for confirmation.

Management:

A. Radiotherapy:

1. **During 1st half of pregnancy:**Application of radium will kill the foetus resulting in spontaneous abortion. So full dose can be applied.
2. **During 2nd half of pregnancy:** Pregnancy to be terminated by hysterectomy and followed by radiotherapy.
3. **In advanced stage of pregnancy:** C/S followed by radiotherapy**..**

B. **Role of surgery:** During early weeks of pregnancy, Wertheim's hysterectomy can be performed with pregnancy in situ.

Complications of cone biopsy:

- ✓ Hemorrhage
- ✓ Abortion
- ✓ Preterm labor
- ✓ Infection

[Dutta-338]

Lining epithelium:

Ectocervix: Squamous

Endocervix: Columner

How much time does CIN take to become ca cervix?

10-15 years, intervention during this period can cure the disease completely.

HPV and Ca cervix:

- ✓ HPV has total 200 strains.
- ✓ Strain 16 and 18 are mostly responsible for Ca cervix.

What are the vaccines for Ca cervix?

1. **Cerverix:** Cheap and effective against 16 and 18.
2. **Gardsil:** Costly and effective against all strains (specially 6,11,16,18).

[Lecture of MMC]

Prevention of Ca cervix:

A. Primary Prevention: Identifying the causal factors and eliminating or preventing those from exerting their effects.

1. **Identifying 'high-risk' female:**
   - ✓ Women with high risk HPV infection
   - ✓ Early sexual intercourse.
   - ✓ Early age of first pregnancy.
   - ✓ Too many births/too frequent birth.
   - ✓ Low socioeconomic status.
   - ✓ Poor maintenance of local hygiene.
2. **Identifying 'high-risk' males:**
   - ✓ Multiple sexual partners.
   - ✓ Previous wife died of cervical carcinoma.
3. **Cancer consciousness, proper health education.**
4. **Prophylactic HPV vaccine:**
   - ✓ All school girls (12–18 years) and women (16–25 years).
   - ✓ 3 doses are to be given:
     - ❖ **Bivalent:** 0–2–6 month
     - ❖ **Quadrivalent:** 0–1–6 month
5. **Use of condom:** During early intercourse, raising the age of marriage and of first birth, limitation of family, maintenance of local hygiene and effective therapy of STIs
6. **Removal of cervix during hysterectomy**

B. **Secondary prevention:**
Identifying and treating the disease earlier in the more treatable stage done by screening procedures.

1. **HPV-DNA testing:** Positive test result in elderly women (> 30 years) suggests colposcopic examination.
2. **Visual inspection with acetic acid (VIA):**
   - ✓ A speculum is introduced and acetic acid is applied to the cervix.

- ✓ Those women with acetowhite lesions are considered for colposcopic examination and/or biopsy.

3. **Colposcopy:**
   - ✓ *In-situ* examination of the cervix with a low magnification (6–16 times) microscope .
   - ✓ Colposcopy evaluates mainly the changes in the terminal vascular network of the cervix which reflect the biochemical and metabolic changes of the tissue.
   - ✓ In fact, cytology identifies the patient having cervical neoplasm, colposcopy identifies the site where from biopsies are to be taken.
4. **Pap's smear**
5. **Schiller's test**

[Dutta-310+331-32+Lecture of MMC]

What is screening?

Screening are the procedures designed to sought out apparently healthy individuals who are probably harbouring the disease but do not show clinical manifestation.

Types:

1. **Mass:** Screening population
2. **Multiphasic:** When a person is screened at a time for several conditions e.g. Ca cervix, breast cancer.
3. **Opportunistic:** Who attend the hospital for any complain
4. **Selective:** Only high risk cases are screened.

Why we can do operation upto IIA?

Bcoz after IIA, Ca involves ureter. So, it cannot be separated

What is stump carcinoma?

Carcinoma that develops in cervical stump after subtotal hysterectomy.

Prognosis:

Depends on the following:

1. **Extent of Growth at the Time of Treatment:** Single most important factor.
2. **Site:**
   - ✓ An endocervical growth is potentially more dangerous than one which grows on the vaginal surface.
   - ✓ Because it is diagnosed relatively late, and it spreads to the broad ligaments and to lymph nodes relatively early.
3. **Naked-eye Appearance:** The hypertrophic, florid, massive growth filling the upper vagina generally carries a bad prognosis - even if it does not appear to have spread much beyond the cervix.

4. **Histology:**
   - ✓ An adenocarcinoma offers relatively unfavourable prospects, not because it is less radiosensitive than a squamous cell growth as was once believed. **Causes include:**
     - ❖ Usually in young women and more in an advanced stage.
     - ❖ Usually endocervical in site & is discovered and treated relatively late
   - ✓ Among the squamous cell growths, the well differentiated are to be preferred because they grow slowly and metastasise late.
   - ✓ The presence of lymph-vascular space invasion (LVSI) is associated with a poorer prognosis.
5. **Age:** The younger the patient the more likely is the growth to be poorly differentiated in type and the worse the outlook.
6. **Ureteric Obstruction:** If unilateral or bilateral ureteric obstruction, the ultimate outlook is poor.

[Jeffcoate's-474-75]

Why Ca cervix screening is more effective?

1. Accessibility of cervix for visualization
2. Cells exfoliate from lesion
3. Prolong natural history of disease with spectrum of histological change from mild atypia through frank malignancy.

Pap's smear:

Cytological examination of cells optioned from squmo-columnar junction of cervix in symptomatic women.

Preparation of patient:

1. Abstinence from coitus for 24 hours prior to procedure
2. No Intra-vaginal medication for 1 week prior to procedure
3. No lubricant should be used during procedure
4. 12^{th} day of cycle is best for taking smear
5. Treatment of infection before taking smear, if any.

Procedure:

1. Performed in OPD
2. Patient is lied in dorsal position in empty bladder
3. With adequate illumination, Cusco's bivalve speculum is to be inserted
4. Scraping of the squamo-columnar junction is to be done with Ayer's spatula by rotating 360 degree. Here neoplastic changes occur most.
5. AYER'S spatula and speculum to be removed

6. Scrapping is taken on a glass slide thinly and evenly
7. Send the slide to lab after fixation with absolute alcohol and ether.

Interpretation:

Group I: Normal

Group II: Borderline atypical cells due to infection. No malignancy

Group III: Suspicious of malignancy

Group IV: Few malignant cells

Group V: Large number of malignant cells

Causes of postcoital building:

- ✓ Ca cervix
- ✓ Cervical erosion

Wertheim's hysterectomy

Indications:

1. Ca cervix upto stage IIA
2. Ca corporis et cervicitis

Comprises of:

1. Total abdominal hysterectomy with bilateral salpingoophorectomy
2. Removal of perimetrial tissue
3. Removal of upper 1/3rd of vagina
4. Removal of pelvic lymph nodes

Complications:

Immediate:

1. Haemorrhage
2. Haematoma
3. Shock
4. Injury to bladder, ureter, bowel and large vessels
5. Paralytic ileus, peritonitis
6. Sepsis

Late:

1. Bladder atony
2. Ureteric fistula
3. Dyspereunia
4. Lymphocyst formation

FIBROID UTERUS

Particulars of the patient:

Name: Mrs. Sunny Leone

Age: 40 years

Religion: Islam

Occupation: Housewife

Address: Shomvugonj, Mymensingh

Date and Time admission:

Date and time of examination:

Bed no:

Ward No:

Reg. No. :

Chief compaints:

1. Excessive per vaginal bleeding during menstruation for lost 2 years.
2. Swelling/ Lump in the abdomen for 1 year.

History of present illness:

According to statement of the patient, she was reasonably well 2 years lack. She noticed menstrual abnormalities for 2 years. Her menstrual cycle was 28-30 days lasting 8-10 days but amount of blood loss was increasing gradually and required average 8 pads/day and sometimes there were passage of clot.

She also felt heaving of lower abdomen and noticed lump in lower abdomen for 1 year which is gradually increasing in size and not painful. Bowel and bladder bladder habit is normal. With the above situation she got admitted to MMCH for better management.

Menstrual History:

Age of Menarche: 13 years

MP/MC: 5 / 28 (±2) days

Since last 2 years= 8-10/28-30 days

Menstrual flow: progressively increasing

1st day of LMP:

Obstetric History:

Married for:

Para:

Age of last child:

Obstetric chart:

Sl N0	**Pregnancy**				**Labour**			**Puerperium**	**Baby**			
	Year of delivery	**Duration**	**ANC**	**Normal/ Complication**	**Place**	**Mode**	**Normal/ complication**	**N/C**	**Sex**	**Status**	**Feeding**	**Immunization**

History of past illness: She has no history of

-DM

-HTN

- Renal disease

- Thyroid disorder

- Any Chronic illness.

Family History:

- No 1st degree relative suffers from such kind of illness
- No other member of her HTN, DM, TB, asthma etc.

Drug history: She took medicine from local quack but couldn't mention the name.

Socio-economic history: Middle class

Personal History: Non-Smoker, non-alcoholic

Immunization history: She isn't immunized.

Contraceptive history: Doesn't use any contraceptive

GENERAL EXAMINATION:

Appearance: Ill looking

Body built: Average/Cachexia in Ca

Co-Operation: Co-Operative

Nutritional status:

Anaemia: ++

Jaundice: Absent

Skin condition: Normal

Oedema: Absent

Cyanosis: Absent

Pulse: 80/min

BP: 120/80 min

RR: 16/ min

Temperature: 99^0F

Lymph node: Not palpable

Dehydration:

Oedema:

Breast examination: Not done

Thyroid gland: Not enlarged

SYSTEMIC EXAMINATION:

Abdominal examination:

Inspection:

- ✓ There is a swelling in lower abdomen
- ✓ Skin over the swelling is normal
- ✓ Umbilicus is centrally placed and inverted
- ✓ No scar mark, engorged vein.

Palpation:

- No raised temperature, muscle guard.
- **Mass:**
  - ✓ **Site:** In hypogastrium
  - ✓ **Size:** About 14 week size
  - ✓ **Tenderness:** Absent
  - ✓ **Surface:** Nodular
  - ✓ **Consistency:** Firm
  - ✓ **Margin:** Well difined lower border cannot be reached
  - ✓ **Mobility:** Mobile side to side bit not above downwands

Percussion: Dull over the mass

Auscultation: Bowel sound present

Pelvic examination: Not done

Other system examination: No abnormality

Salient features:

Mrs. Asma, 40y para 3+0 Muslim, Housewife normotensive, non-diabetic, non-smoker, non alcoholic hailing from Shomvugonj, Mymensingh admitted to MMCH with the complaints of excessive pervaginal bleeding during menstruation for 2 years. Her menstrual cycle was 28-30 days lasting 8-10 days but amount of blood loss was increasing gradually and required average 8 pads/day and sometimes there were passage of clot. She also felt heaving of lower abdomen and noticed lump in lower abdomen for 1 year which is gradually increasing in size and not painful. Bowel and bladder bladder habit is normal. On G/E she is severely anaemic, pulse 80/min, BP 120/80 mm of Hg, temperature 99^0F, RR 16/min, no dehydration. On per aldominal examination, abdomen is distended on lower part, umbillcus centrally placed and invented, no raised temperature on muscle gaurd, a mass in hyposgastrium of about 14 week size, non tender, nodular surface, firm consistency, well defined margin but lower border cannot be reached, mobile side to side but restricted mobility above downrards, percussion node is dull over the mass, bowel sound present. Pelvic examination was not performed and other system examination revealed no abnormality.

Provisional Dx: Fibroid uterus:

D/D: Ovarian tumor

Investigations:

Investigation:

Routine:

1. CBC
2. Blood grouping and Rh typing
3. RBS
4. Fasting lipid profile
5. S. Creatinine
6. Urine RME
7. CXR PA view

8. ECG

Fox DX: USG of uterus with adnexa

Treatment:

1. Nutritions diet
2. Fe, Folate (200mg)
3. **Specific:** Total abdominal hysterectomy with preservation of ovary

Advice on discharge:

1. Avoid coitus for 6 weeks
2. Avoid heavy works for 3 months

Follow up:

- Stich removed on 8th POD and discharge

- Follow up after 02 weeks.

What is your DD? Why? Why not?

Ovarian tumour

Points in favour: Lump in hypogastric region

Points against:

1. No menstrual abnormality
2. Firm in consistency
3. Freely mobile from side to side but restricted from above down
4. Mass is not separated from uterus

What may be other DDs?

1. **Adenomyosis:** There should be
   - ✓ Menorrhagia and dysmenorrhea
   - ✓ Symmetrical enlargement of uterus
   - ✓ Doesn't exceed 12-14 weeks
2. **Tubo-ovarian mass:** There should be
   - ✓ H/O polymenorrhagea, dysmenorrhea and dyspareunia
   - ✓ H/O abortion, MR

- ✓ Tender lump in abdomen
- ✓ On vaginal examination: Tender lump felt through fornices which may be adherent to uterus and uterus in normal size

FIBROID

- ✓ **Commonest benign tumor of the uterus**
- ✓ Histologically, this tumor is composed of smooth muscle and fibrous connective tissue, so named as **uterine leiomyoma, myoma or fibromyoma.**

[Dutta-259]

Origin

Hypothesis is that, it arises from the neoplastic single smooth muscle cell of the myometrium. The stimulus for initial neoplastic transformation is not known. The following are implicated:

1. **Chromosomal abnormality:**
   - ✓ Particularly the chromosome six or seven (rearrangements, deletions).
   - ✓ Somatic mutations in myometrial cells may also be the cause for uncontrolled cell proliferation.
2. **Role of polypeptide growth factors:** Epidermalgrowth factor (EGF), insulin-like growth factor-1 (IGF-1), transforming growth factor (TGF), stimulate the growth of leiomyoma either directly or via estrogen.
3. **A positive family history:** Often present.

[Dutta-259]

Growth: It is predominantly an **estrogen-dependent** tumor.

1. Estrogen dependency is evidenced by:
2. Growth potentiality is limited during childbearing period.
3. Increased growth during pregnancy.
4. They do not occur before menarche.
5. Following menopause, there is cessation of growth and there is no new growth at all.
6. It seems to contain more estrogen receptors than the adjacent myometrium.
7. Frequent association of anovulation.

[Dutta-259-60]

Risk factors for fibroids:

Increased risk	Reduced risk
1. Nulliparity 2. Obesity 3. Hyperestrogenic state 4. Black women	1. Multiparity 2. Smoking

[Dutta-260]

Types:

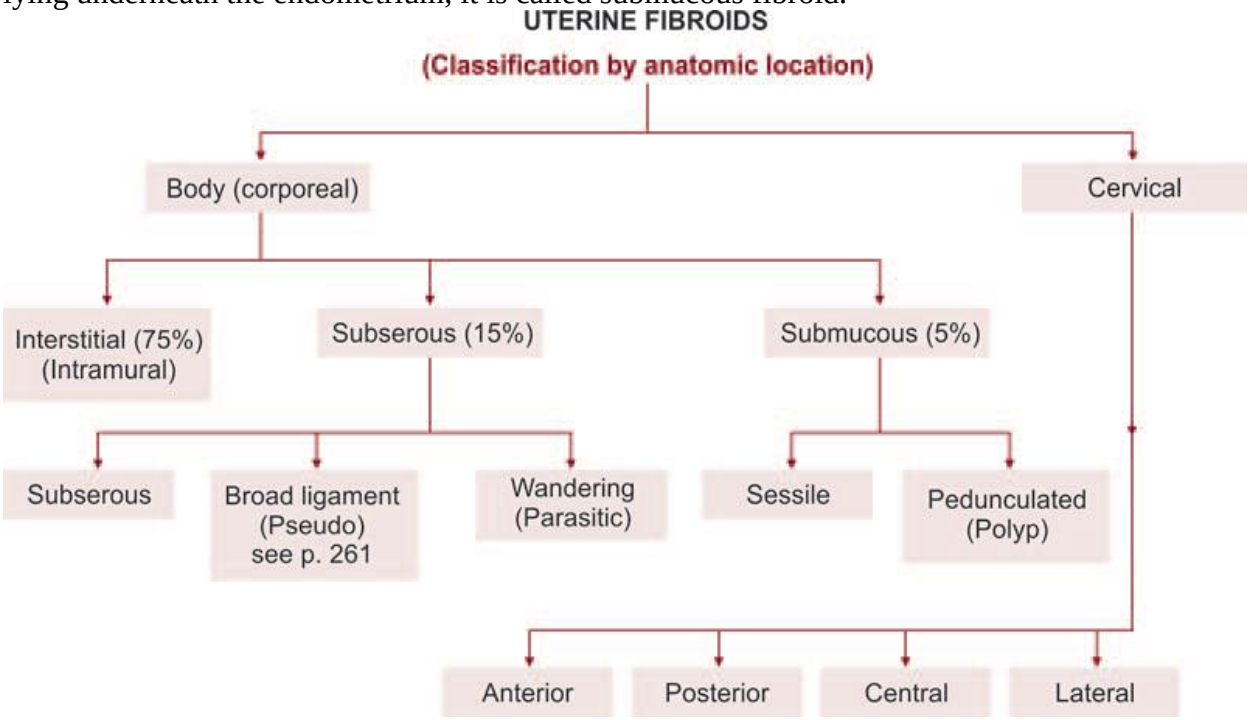
A. Body
B. Cervical

A. Body:

- ✓ Mostly located in the body of the uterus
- ✓ Usually multiple

Mainly 3 types:

1. **Interstitial or intramural (75%)**
2. **Subperitoneal or subserous (15%):** Intramural fibroid is pushed outwards towards the peritoneal cavity. The fibroids are either partially or completely covered by peritoneum.
    - ***I.*** **Pedunculated :** When completely covered by peritoneum.
    - *II.* **'Wandering' or 'parasitic':** On rare occasion, the pedicle may be torn through; the fibroid gets its nourishment from the omental or mesenteric adhesions.
    - ***III.*** **Broad ligament fibroid (false or pseudo):** When the intramural fibroid may be pushed out in between the layers of broad ligament
3. **Submucous (5%):**The intramural fibroid when pushed toward the uterine cavity, and is lying underneath the endometrium, it is called submucous fibroid.



[Dutta-260]

Pathology:

Naked eye appearance:

1. **Size and shape:**
    - ✓ Uterus is enlarged
    - ✓ Shape is distorted by multiple nodular growth of varying sizes.
    - ✓ Occasionally, uniform enlargement of the uterus by a single fibroid.
2. **Consistency:** Firm
3. **False capsule**:
    - ✓ Is formed by the compressed adjacent myometrium.
    - ✓ Capsule is separated from the growth by a thin loose areolar tissue.
    - ✓ Blood vessels run through this plane to supply the tumor. It is through this plane that the tumor is shelled out during myomectomy operation.
    - ✓ The periphery of the tumor is more vascular and have more growth potentiality. **The center of the tumor is least vascular and likely to degenerate.**

Microscopic appearance:

- ✓ Tumor consists of smooth muscles and fibrous connective tissues of varying proportion.
- ✓ Tumour cells have high estrogen receptor

[Dutta-261]

Secondary changes in fibroids:

1. Degenerations
2. Atrophy
3. Necrosis
4. Infection
5. Vascular changes
6. Sarcomatous change

[Dutta-262]

Associated Changes in the Pelvic Organs (associated conditions of fibroid uterus):

Uterus:

- ✓ Shape is distorted; usually asymmetrical but at times, uniform.
- ✓ **Myohyperplasia:** Due to hyperestrinism or work hypertrophy in an attempt to expel the fibroid.
- ✓ **Endometrium:** May be of normal type.
- ✓ In others, There is dilatation and congestion of the myometrial and endometrial venous plexuses. The endometrium as a result becomes thick, congested and edematous.
- ✓ The endometrium overlying the submucous fibroid may be thin and necrotic with evidences of infection.

Uterine tubes: The frequent tubal infection (about 15%) detected in association with fibroid seems coincidental.

Ovaries:

- ✓ Ovaries may be **enlarged**, **congested** and studded **with multiple cysts**.
- ✓ Due to **hyperestrinism.**

Ureter:

- ✓ There may be displacement of the anatomy of the ureter in broad ligament fibroid.
- ✓ The compression effect results in hydroureter and or hydronephrosis.

Endometriosis: Increased association of pelvic endometriosis and adenomyosis (30%).

Endometrial carcinoma: Incidence remains unaffected.

[Dutta-263]

Complications of fibroid:

1. **Degenerations:**
   - ✓ **Hyaline degeneration:** Most common
   - ✓ **Cystic degeneration:** Usually following Menopause
   - ✓ **Fatty degeneration:** Usually found at or after Menopause
   - ✓ **Calcific degeneration:**
     - ➢ Precipitation of calcium carbonate or phosphate within the tumor.
     - ➢ When whole of the tumor is converted into a calcified mass, it is called **"womb stone"**
   - ✓ **Red degeneration**
2. Necrosis
3. Infection
4. Sarcomatous change (rare)
5. Torsion of subserous pedunculated fibroid

6. **Hemorrhage:**
   - ✓ Intracapsular
   - ✓ Ruptured surface vein of subserous fibroid → intraperitoneal
7. **Polycythemia:** Due to
   - ✓ Erythropoietic function by the tumor
   - ✓ Altered erythropoietic function of the kidney through ureteric pressure

[Dutta-263]

Management of fibroid:

A. Clinical features

Patient Profile:

- ✓ Usually **nulliparous** or having long period of **secondary infertility**.
- ✓ **Incidence:** Peak between **35–45 years**.

Symptoms:

1. **Asymptomatic**
2. **Menstrual Abnormalities**

(a) **Menorrhagia: Classic symptom.**

- ✓ The menstrual loss is progressively increased with successive cycles. It is conspicuous in submucous or interstitial fibroids.
- ✓ **The causes are:**
  - ➢ Increased surface area of the endometrium (Normal is about 15 sq cm).
  - ➢ Endometrial hyperplasia due to hyperestrinism (anovulation).
  - ➢ Interference with normal uterine contractility due to interposition of fibroid.
  - ➢ Congestion and dilatation of the subjacent endometrial venous plexuses caused by the obstruction of the tumor.
  - ➢ Pelvic congestion.
  - ➢ **Role of prostanoid:** Imbalance of thromboxane(TXA2) and prostacyclin (PGI2) with relative deficiency of TXA2.

(b) **Metrorrhagia or irregular bleeding:** May be due to:

- ✓ Ulceration of submucous fibroid or fibroid polyp.
- ✓ Torn vessels from the sloughing base of a polyp.
- ✓ Associated endometrial carcinoma.

(c) Dysmenorrhea:

- ✓ **Congestive variety:** Due to associated pelvic congestion or endometriosis.
- ✓ **Spasmodic type:** Associated with extrusion of polyp and its expulsion from the uterine cavity.

(d) Infertility: Infertility (30%) may be a major complaint.

The probable known attributing factors are:

Uterine:

- ✓ Distortion and or elongation of the uterine cavity → difficult sperm ascent.
- ✓ Preventing rhythmic uterine contraction due to fibroids during intercourse → impaired sperm transport.
- ✓ Congestion and dilatation of the endometrial venous plexuses → defective nidation.

- ✓ Atrophy and ulceration of the endometrium over the submucous fibroids → defective nidation.
- ✓ Menorrhagia and dyspareunia.

Tubal

- ✓ Cornual block due to position of the fibroid.
- ✓ Marked elongation of the tube over a big fibroid.
- ✓ Associated salpingitis with tubal block.

Ovarian: Anovulation
Peritoneal: Endometriosis
Unknown: (majority)

3. **Pregnancy-related problems:** Like
   - ✓ Abortion
   - ✓ Preterm labor
   - ✓ Intrauterine growth restriction

Mechanism: Defective implantation of the placenta, poorly developed endometrium, reduced space for the growing fetus and placenta.

4. **Pain lower abdomen:** The fibroids are usually painless. Pain may be due to-

Due to tumor

- ✓ Degeneration
- ✓ Torsion subserous pedunculated fibroid
- ✓ Extrusion of polyp.

Associated pathology

- ✓ Endometriosis
- ✓ PID

5. **Abdominal swellings (lump)**
6. **Pressure symptoms: (rare)**
   - ✓ The fibroids in the posterior wall may be impacted in the pelvis producing constipation, dysuria or even retention of urine.
   - ✓ A broad ligament fibroid may produce ureteric compression → hydroureteric and hydronephrotic changes → infection → pyelitis.

Signs

1. **General examination:** Pallor
2. **Abdominal examination:** If enlarged to 14 weeks or more, the following features are noted.

   Palpation

   Consistency: Firm, more toward hard; may be cystic in cystic degeneration.
   Margins: Well-defined except the lower pole which cannot be reached suggestive of pelvic in origin.
   Surface: Nodular; may be uniformly enlarged in a single fibroid.
   Mobility: Restricted from above downwards but can be moved from side to side.

   Percussion: Dull
3. **Pelvic examination:**

   Bimanual examination: Uterus irregularly enlarged by the swelling felt per abdomen.
   Swelling is uterine is evidenced by:

- ✓ Uterus is not felt separated from the swelling and as such a groove is not felt between the uterus and the mass.
- ✓ Cervix moves with the movement of the tumor felt per abdomen.

B. Investigations:

For diagnosis:

1. **USG and Color Doppler (TVS)**
2. **MRI**
3. **Laparoscopy**
4. **Hysteroscopy**
5. **Uterine curettage**

For assessment of the patient:

1. Blood for TC, DC, ESR, Hb%
2. Blood grouping and Rh typing
3. RBS
4. Blood urea
5. Urine RME
6. CXR
7. ECG

Differential diagnosis:

1. Pregnancy
2. Full bladder
3. Adenomyosis
4. Myohyperplasia
5. Ovarian tumor
6. TO mass.

Treatment:

A. Asymptomatic (75%):

1. **Observation:**

Indications of expectant management:

- ✓ Size <12 weeks (of pregnancy size)
- ✓ Diagnosis certain
- ✓ Follow up possible

Periodic examination at interval of 6 months is needed.

2. **Surgery:** If the symptoms of fibroid appear and or it grows and increases in size.

B. Symptomatic fibroids;

1. **Medical Rx:** To minimize blood loss and to correct anemia when a definite surgery cannot be undertaken for certain periods
   a. **Antiprogesterones:** Mifepristone. (Reduce fibroid size and menorrhagia)
   b. **Danazol*:*** Reduce the volume of a fibroid slightly.
   c. **GnRH agonists**:
      - ✓ Goserelin
      - ✓ Luporelin
      - ✓ Buserelin
      - ✓ Nafarelin

Mechanism of action: Sustained pituitary down regulation and suppression of ovarian function.

d. GnRH antagonists:

- ✓ Cetrorelix
- ✓ Ganirelix

Causes immediate suppression of pituitary and the ovaries.

e. Prostaglandin synthetase inhibitors*:*

- ✓ To relieve pain due to associated endometriosis or degeneration of the fibroid.
- ✓ Cannot improve menorrhagia due to fibroids.

f. Levonorgestrel-releasing Intrauterine System (LNG-IUS): Reduces blood loss and uterine size.

2. Surgical management:

A. Myomectomy: May be done by

- ✓ Laparotomy
- ✓ Laparoscopy
- ✓ Hysteroscopy

B. **Embolotherapy**

C. Myolysis

D. Hysterectomy

[Dutta-263-270]

Cervical fibroid: (Not so important)

Symptoms : In nonpregnant state, the symptoms are predominantly due to pressure effect on the surrounding structures.

1. **Anterior cervical:** Bladder symptoms like
   frequency
   retention of urine: More due to pressure than elongation of urethra.
2. **Posterior cervical:** Rectal symptom- **constipation.**
3. **Lateral cervical:**
   - ✓ Vascular obstruction may lead to **hemorrhoids** and **edema legs** (rare).
   - ✓ The ureter is pushed laterally and below the tumor.
4. **Central cervical:**
   - ✓ Predominantly bladder symptoms.
   - ✓ The cervix is expanded on all sides. The uterus sits on the top of the expanded cervix (lantern on the dome of St. Paul's).
   - ✓ Obstruction during labor.
   - ✓ If pedunculated, there may be a sensation of something coming down or if infected a foul smelling discharge per vaginum

Treatment:

1. **Supravaginal fibroids:**
   - ✓ Myomectomy
   - ✓ Hysterectomy
2. **Vaginal:**
   - ✓ Myomectomy
   - ✓ Polypectomy

[Dutta-284-285]

Myomectomy:

Indication:

1. Persistent uterine bleeding despite medical therapy.
2. Excessive pain or pressure symptoms.
3. Size >2 weeks, woman desirous to have a baby.
4. Unexplained infertility with distortion of the uterine cavity.
5. Recurrent pregnancy wastage due to fibroid.
6. Rapidly growing myoma during follow-up.
7. Subserous pedunculated fibroid

[Dutta-269]

Pre-requisite:

1. **Hysteroscopy or hysterosalpingography:** To exclude any submucous fibroid or a polyp or any tubal block.
2. **Hysteroscopy/endometrial biopsy**: in cases of irregular cycles, not only to remove a polyp but also to exclude endometrial carcinoma.
3. **Examination of the husband** from fertility point of view (semen analysis).

[Dutta-269]

Contraindication:

1. Infected fibroid.
2. Growth of myoma after menopause.
3. Suspected malignant change (sarcoma).
4. Parous women where hysterectomy is safer and is a definitive treatment
5. Function less fallopian tubes (bilateral hydrosalpinx, tubo-ovarian mass)
6. Pelvic or endometrial tuberculosis.
7. During pregnancy or during cesarean section

[Dutta-269]

Counseling myomectomy:

1. We will remove the tumour but we may have to hysterectomy
2. 40-50% chance to conceive
3. Risk of recurrence
4. Excess haemorrhage may happen. So, keep blood ready.

[Lecture of MMC]

Counseling of hysterectomy:

1. There will be no menstruation
2. There will be no pregnancy
3. Sexual act will be normal

[Lecture of MMC]

Causes of symmetrical enlargement of uterus:

1. Pregnancy
2. Hematometra
3. Pyometra
4. Lochiometra
5. Submucous or intramural (solitary) fibroid
6. Adenomyosis
7. Myohyperplasia

8. Malignancy
    - ✓ Carcinoma body
    - ✓ Choriocarcinoma
    - ✓ Sarcoma

[Dutta-265]

Life threatening complications of fibroid:

1. Persistent menorrhagia, metrorrhagia or continued vaginal bleeding → severe anemia
2. **Severe intraperitoneal hemorrhage:** Due to rupture of veins over subserous fibroid
3. **Severe infection** leading to peritonitis or septicemia
4. **Sarcoma** (rare)

[Dutta-265]

Meig's syndrome: Triad of symptoms

1. Ascities
2. Pleural effusion
3. Benign ovarian tumour

[Dutta-622]

Pseudomeig's syndrome: Triad of symptoms

1. Ascities
2. Pleural effusion
3. Fibroid

[Lecture of MMC]

Effect of fibroid on pregnancy:

1. Infertility
2. Abortion
3. Malpresentation, malposition
4. **During delivery:** Obstructed labour
5. **After delivery:**
    - ✓ PPH
    - ✓ Subinvolution
    - ✓ Infection

[Dutta-264+Lecture of MMC]

Effects of pregnancy on fibroid:

1. Increased size of uterus in proportion to gestational age
2. Respiratory distress due to compression over the diaphragm by enlarged uterus
3. Red degeneration
4. Torsion

[Dutta-264+Lecture of MMC]

OVARIAN TUMOUR

Particulars of the patient:

Name: Mrs. Kareena Kapoor

Age: 53 years

Occupation: Housewife

Religion: Islam

Address: Brahmopalli, Mymensingh

Date and Time of Admission:

Date and time examination:

Bed No.:

Ward No.:

Reg. No.:

C/C:

1. Lump in the lower abdomen for 1 year
2. Pain in lower abdomen for 6 months
3. Generalized weakness for same duration (in case of malignant tumour/mucinous cystadenoma).

History of present illness:

According to the statement of the patient, she was reasonably well 1 year back. Then she noticed a lump in the lower abdomen, which is gradually/ rapidly increasing in size, associated with dull aching pain for last 6 months in left/Right side of lower abdomen, constant and progressive, non-radiating, not associated with vomiting, no aggravating or relieving factor was reported. It is She has no menstrual abnormality. She also complains of generalized weakness, easy fatigability, loss of appetite. Her bowel and bladder habits are normal. With these above circumstances, she was admitted to MMCH for better management.

Menstrual History:

Age of Menarche: 13 years

Menopausal for: 8 years (If menopaused)

Obstetric History:

Married for:

Para:

Age of last child:

Obstetric chart:

Sl N0	Pregnancy				Labour			Puerperium	Baby			
	Year of deliverey	Duration	ANC	Normal/ Complication	Place	Mode	Normal/ complication	N/C	Sex	Status	Feeding	Immunization

History of past illness: She has no history of

-DM

-HTN

- Renal disease

- Thyroid disorder

- Any Chronic illness.

Family History:

- No 1st degree relative suffers from such kind of illness
- No other member of her HTN, DM, TB, asthma etc.

Drug history: Nothing contributory

Socio-economic history: Middle class

Personal History: Non-Smoker, non-alcoholic

Immunization history: She isn't immunized.

Contraceptive history: Doesn't use any contraceptive

GENERAL EXAMINATION:

Appearance: Normal/ill looking

Body built: Average/Cachexia in Ca

Co-Operation: Co-Operative

Nutritional status:

Anaemia: +

Jaundice: Absent/ may be present in malignancy

Skin condition: Normal

Oedema: Absent/present in Ca

Cyanosis: Absent

Pulse: 80/min

BP: 120/80 min

RR: 16/ min

Temperature: 99^0F

Lymph node: Vinchow's gland in malignancy

Dehydration:

Oedema:

Breast examination: Not done

Thyroid gland: Not enlarged

SYSTEMIC EXAMINATION:

Abdominal examination:

Inspection:

- ✓ There is a swelling in lower abdomen
- ✓ Skin over the swelling is normal
- ✓ Umbilicus is centrally placed and inverted
- ✓ No scar mark, engorged vein.

Palpation: A mass in hypogastric region having-

Size: Measurement

Shape:

Temperature:

Tenderness: Tender/non-tender

Surface: Regular/Irregular

Margin: Well defined/ill defined. Lower pole is couldnt be reached.

Consistency: Cystic/tense cystic/solid

Fixity: Freely mobile from side to side but restricted from above down/ fixed with skin and underlying structure.

No organomegaly

Percussion: Dull

Auscultation: Bowel sound present

Pelvic examination: Not done

Other system examination: NAD

Salient feature:

Mrs. Kareena Kapoor, 53 years old, Muslim housewife Para..... . ALC.....years, post-menopausal, normotensive, non-diabetic, non-smokes, non-alcoholic hailing from Brahmopalli, Mymensingh admitted to MMCH on ....., 2016 with the complaints of a lump in the lower abdomen for 1 year which is gradually/ rapidly increasing in size, associated with dull aching pain for last 6 months in left/Right side of lower abdomen, constant and progressive, non-radiating, not associated with vomiting, no aggravating or relieving factor was reported. It is She has no menstrual abnormality. She also complains of generalized weakness, easy fatigability, loss of appetite. Her bowel and bladder habits are normal. With these above circumstances, she was admitted to MMCH for better management. On general examination, she is mildly/moderately/severely anaemic, icteric/non-icteric, pulse 80/min, BP 120/80 mm of Hg, RR 16/min, temperature 99^0F, no dehydration, ankle oedema present/absent, no lymphadenopathy/virchow's gland palpable (If palpable mention size, shape, consistency, tenderness, fixity discharging sinus present or not) . On abdominal examination, there is a globular mass in hypogastric region measuring about ..X…cm in size, smooth/irregular surface, tender/non-tender, cystic/hard in consistency, Freely mobile from side to side but restricted from above down/ fixed with skin and underlying structure, no organomegaly, dull on percussion and bowel sound present. Other system examination revealed normal and PV examination was not done.

Provisional dx: Ovarian tumour (Benign or malignant)

D/D:

1. Fibroid uterus (Mention this only unless you are asked further)
2. Ascities
3. Pregnancy

Investigation:

Routine:

9. CBC
10. Blood grouping and Rh typing
11. RBS
12. Fasting lipid profile
13. S. Creatinine
14. Urine RME
15. CXR PA view
16. ECG

For diagnosis:

1. USG of Whole Abdomen
2. Tumour marker CA-125

Clinical diagnosis: Ovarian tumour

Treatment: Laparotomy and planning of surgery depending on age, parity and nature of tumour

What are your DDs and why? Why not?

Fibroid uterus:

Points in favour:

- ✓ Lump in lower abdomen
- ✓ Pain in lower abdomen

Points against:

- ✓ No menstrual abnormality
- ✓ Not firm in consistency

Ascities:

Points in favour:

- ✓ Abdomen is distended

Points against:

- ✓ Abdominal skin isn't shiny
- ✓ Umbilicus isn't everted
- ✓ Fluid thrill and shifting dullness absent
- ✓ Tympanic on center and dull on percussion (Opposite to ascities)

Pregnancy:

Points in favour:

- ✓ Distension of lower abdomen
- ✓ Pain in lower abdomen

Points against:

- ✓ No H/O amenorrhoea
- ✓ No palpable fetal parts and no audible FHS

Benign Lesions of the Ovary

Ovarian enlargement:

1. Non-neoplastic
2. Neoplastic (Benign)

[D.C Dutta 7th-289]

Non-neoplastic: Usually due to accumulation of fluid inside the functional unit of the ovary.

Causes:

1. Follicular cysts
2. Corpus luteum cyst
3. Theca lutein and granulosa lutein cysts.
4. Polycystic ovarian syndrome
5. Endometrial cyst (chocolate cyst)

[D.C Dutta 7th-289]

The features of the functional cysts are:

1. Related to temporary hormonal disorders.
2. Rarely becomes complicated.
3. Sometimes confused with neoplastic cyst but can be distinguished by the following features:
   - ✓ Usually asymptomatic.
   - ✓ Spontaneous regression usually following correction of the functional disturbances to which it is related.
   - ✓ Usually 6–8 cm in diameter.
   - ✓ Unilocular.
   - ✓ Contains clear fluid inside unless hemorrhage occurs.
   - ✓ Lining epithelium corresponds to the functional epithelium of the unit from which it arises.

[D.C Dutta 7th-289]

Neoplastic

I. Epithelial tumor (60–70%): These tumors may be benign, borderline malignant or malignant.

1. Serous tumor
2. Mucinous cyst adenoma
3. Endometrioid tumors
4. Mesonephroid or clear cell tumors
5. Brenner tumors
6. Mixed epithelial tumors
7. Undifferentiated carcinoma
8. Unclassified epithelial tumors

II. Sex cord stromal tumors (6–10%)

1. Granulosa cell tumors
2. Tumors of thecoma-fibroma group
   - ✓ Thecoma
   - ✓ Fibroma
   - ✓ Unclassified
3. Androblastoma
   - ✓ Sertoli cell tumor
   - ✓ Sertoli leydig cell tumor
   - ✓ Hilus cell tumor
4. Gynandroblastoma
5. Unclassified

III. Lipid cell tumor

IV. Germ cell tumors of the ovary (20–25% of all primary ovarian neoplasms)

I. Germ cell tumors

a) Dysgerminoma

b) Endodermal sinus tumor

c) Embryonal cell carcinoma

d) Polyembryoma

e) Choriocarcinoma

f) Teratoma:

i. I mmature;

ii. Mature (Dermoid cyst);

iii. Monodermal:

- ✓ Struma ovarii

- ✓ Carcinoid

g) Mixed forms (combinations of types A to F)

II. *Tumors composed of germ cells and sex cord stromal derivatives*

a) Gonadoblastoma

b) Mixed germ cell — sex cord stromal tumor

V. Gonadoblastoma

VI. Unclassified

VII. Secondary metastasis

[D.C Dutta 7th-290]

Diffrentiation of benign and malignant ovarian tumour:

	Benign	**Malignant**
Clinical examination	**1. Unilateral** 2. **Mobil**e 3. Feel — **Cystic** 4. Surface — **Smooth** 5. Ascites — **Absent** 6. Growth — **Slow** **7.** Patient's Age — **Younger**	**1. Bilateral** **2. Fixed** **3. Solid/variegated** **4. Irregular** **5. Present** **6. Rapid** **7. Older**
Laparotomy findings	1. Ascites—Absent 2. Exophytic growth on surface: Absent 3. Adhesions: Absent 4. Peritoneal nodules: Absent **5.** Cut section: Cystic	1. Present, often Hemorrhagic 2. Present 3. Present 4. Present 5. Solid and hemorrhagic areas
USG findings	1. Cystic areas with uniformly thin or thick multiple linear echoes. 2. Color Doppler (TVS) evaluation of blood flow: Regular vascular branching and flow	1. Cystic areas with irregular heterogenous solid part in more than 50% total tumor volume. 2. Neovascularization, low resistance flow with pulsatility index <1.0

[D.C Dutta 7th-294]

Management of benign ovarian tumour:

Age:

- ✓ Late childbearing period.
- ✓ Dermoid is more common during pregnancy

Parity: No correlation (c.f. Fibroid — more related with nulliparity).

Symptoms:

1. Asymptomatic (Most tumors): Detected accidentally
2. Heaviness in the lower abdomen.
3. A gradually increasing mass in lower abdomen
4. Dull aching pain: In lower abdomen.
5. In neglected cases, the tumor may be big enough to fill whole of the abdomen. It then produces cardiorespiratory embarrassment or gastrointestinal symptoms like nausea or indigestion.
6. **Unaffected Menstrual pattern:** Unless associated with hormone producing tumors

Signs

1. **General condition:**
   - ✓ **Unaffected**
   - ✓ **Cachetic**: In huge mucinous cyst adenoma, may be due to protein loss
   - ✓ **Pitting edema of legs:** When a huge tumor presses on the great veins.
2. **Abdominal examination:**

Inspection:

- ✓ Bulging of the lower abdomen
- ✓ Mass may be placed centrally or in one side
- ✓ Moves freely with respiration.
- ✓ Everting the umbilicus with visible veins under the skin
- ✓ Flanks remain flat (c.f. Flanks are full with ascites)

• • ***Palpation***

- ✓ **Tenderness:** Usually not tender
- ✓ **Surface:** Smooth
- ✓ **Consistency:** Cystic or tense cystic.
- ✓ **Margins:**
  - ➢ Upper and lateral borders are well-defined but the lower pole is difficult to reach (suggestive of pelvic origin.)
  - ➢ Tumor may be displaced upwards so as to reach the lower pole.
- ✓ **Mobility:**
  - ➢ Freely mobile from side to side but restricted from above down unless the pedicle is long.
  - ➢ Too big a tumor or adhesions make its mobility restricted.

***Percussion* :**

- ✓ Dull in the center and resonant in the flanks (c.f. In ascites: just the opposite).

Auscultation: A **friction rub** may be present over the tumor (Hissing sound over a vascular fibroid, gargling sound in ascites and FHS over a pregnant uterus).

3. **Pelvic examination: Bimanual examination reveals:**
    1. The uterus is separated from the mass.
    2. A groove is felt between the uterus and the mass.
    3. Movement of the mass per abdomen fails to move the cervix
    4. On elevation of the mass per abdomen, the cervix remains in stationary position
    5. The lower pole of the cyst can be felt through the fornix.
    6. Absence of pulsation of the uterine vessels through the fornices.

Investigations:

1. **Sonography**
2. **CT**
3. **MRI**
4. **Serum CA 125**
5. **EUA**
6. **Laparoscopy**
7. **Straight X-ray of the abdomen over the tumor:** The finding of a shadow of teeth or bones is a direct evidence of a dermoid cyst.
8. **Laparotomy:** If the clinical and ancillary aids fail to diagnose the mass
9. **Cytology:** When the patient presents with ascites or pleural effusion, cytological examination of the aspirated fluid is done for malignant cells.

[D.C Dutta 7th-295-97]

D/D:

1. **Full bladder**
2. **Pregnancy**
3. **Fibroid**
4. **Chocolate cyst of the ovary**
5. **Encysted peritonitis**:
    - ➢ Usually irregular
    - ➢ Not movable
    - ➢ Ill-defined margins
    - ➢ Usually situated high up.
    - ➢ Pelvic examination usually gives a negative finding.
6. **Ascites:** There is
    - ✓ Fullness of the flanks.
    - ✓ On percussion: Flanks are dull with resonance in the center. There may be presence of fluid thrill and positive shifting dullness.
    - ✓ On auscultation: Absence of any rub sound unlike in ovarian tumor.

7. **Functional ovarian cyst:** These cysts are small and reexamination after 12 weeks solves the diagnosis
8. **Pregnancy with fibroid.**

[D.C Dutta 7th-297-98]

Treatment: Definitive surgery

In young patients

1. **Operation of choice:** Ovarian cystectomy leaving behind the healthy ovarian tissue
2. **Salpingo-oophorectomy:** Big tumor that has destroyed almost all the ovarian tissues or for a gangrenous cyst.
3. **If both the ovaries are involved:** Ovarian cystectomy should be done at least in one ovary.
4. Retention of the uterus for possible ART may be considered when bilateral ovariotomy has to be done.

In parous women around 40 years: Total hysterectomy with bilateral salpingooophorectomy

In between these two extremes of age

- ✓ Individualization is to be done as regards the nature of surgery.
- ✓ Due consideration is to be given about the reproductive and menstrual function.

[Dutta-281-88]

Complications of benign ovarian tumors:

1. Torsion of the pedicle (axial rotation)
2. Intracystic hemorrhage
3. Infection
4. Rupture
5. Pseudomyxoma peritonei
6. Malignancy

[D.C Dutta 7th-298]

Torsion of the Pedicle

Predisposing factors for Torsion:

1. Trauma.
2. Violent physical movements.
3. Contractions of pregnant uterus.
4. Intestinal peristalsis.

These probably initiate axial rotation.

Precipitating factor:

Slight axial rotation of the pedicle → venous occlusion and partial arterial compression → intermittent forcible arterial pulsation → further aggravating the axial rotation until it becomes complete.

The rotation occurs usually towards midline.

Torsion leads to ischemia and tissue necrosis

[D.C Dutta 7th-299-300]

Management:

Symptoms:

1. Sudden onset of lower abdominal pain
2. Vomiting
3. Fever
4. H/O ovarian tumor: May be present

Signs:

1. Anxious
2. Pulse: Tachycardia
3. Muscle guard
4. Tenderness over the area of tumour
5. Vaginal examination: Adnexal tenderness

D/Ds:

1. Ruptured ectopic pregnancy
2. Ruptured chocolate cyst of ovary
3. Ruptured luteal cyst
4. Incomplete abortion

Treatment:

A. Medical:
   1. NPO
   2. IV fluid
   3. Analgesic

B. Surgical:
   1. **Ovariotomy:** If young patient with benign lesion, no healthy tissue remainining and other ovary and the uterus is healthy.
   2. **Hysterectomy and bilateral salpingo-oophorectomy:** If
      - ✓ Old and menopausal lady
      - ✓ Young but the lesion seems to be malignant.

What complication may arise if immediate surgery is not done?

- ✓ Ischemic necrosis, gangrene formation and detachment of tomour from the pedicle
- ✓ Intraperitoneal haemorrhage and shock

Pseudomyxoma Peritonei:

It is a condition of mucinous ascites usually secondary to mucinous tumor of intra-abdominal organ.

Often associated with

- ✓ Mucinous cyst adenoma of the ovary
- ✓ Mucocele of the appendix and gallbladder
- ✓ Intestinal malignancy.

Pathogenesis:

- ✓ Spontaneous perforation of mucinous cyst may lead to implantation of the cells of low grade malignancy on the peritoneum.
- ✓ Or else, the mesothelium of the peritoneum is converted to high columnar epithelium with secretory activity.
- ✓ The cell type is similar to mucinous cyst adenoma.

Treatment: *Hysterectomy, bilateral salpingo-oophorectomy* with removal of mucin, peritoneal implants along with appendix is recommended.

[D.C Dutta 7th-300]

MALIGNANT OVARIAN TUMORS

Patient profile:

- ✓ No age is immune to ovarian malignancy
- ✓ Increased association of **nulliparity** and with **a family history**.

Symptoms:

1. **Asymptomatic:** In **early stage**.
2. **Abdominal swelling:** May be rapid.
3. **Abdominal pain:** Dull
4. **Sudden loss of weight.**
5. **Respiratory distress:** Mechanical due to ascites or due to pleural effusion.
6. Menstrual abnormality is conspicuously absent except in functioning ovarian tumors

Signs:

1. **General Examination reveals**
   - ✓ Cachexia
   - ✓ Pallor
   - ✓ Jaundice: Late cases
   - ✓ Left supraclavicular lymph gland (Virchow's): May be enlarged
   - ✓ Edema leg or vulva: Characteristic of malignant and not of benign neoplasm.
2. **Per abdomen**
   - ✓ **Liver:** May be enlarged, firm and nodular.
   - ✓ **A mass** is felt in the **hypogastrium;** too often it may be bilateral. It has got the following features:

- **Tenderness:** Usually present.
- **Surfaces:** Irregular.
- **Margins:** Well-defined but the lower pole is usually not reached.
- **Feel:** Solid or heterogenous.
- **Mobility:** Mobile or restricted.
- **Percussion:**
  - Dull
  - May be resonant due to overlying intestinal adhesions.

3. **Per vaginum:**
   - ✓ The uterus may be separated from the mass felt
   - ✓ Nodules may be felt through the posterior fornix. If it is more than 1 cm, the diagnosis of malignancy is almost certain.

Investigations:

Routine investigations:

1. CBC
2. Blood grouping and Rh typing
3. Blood urea and serum creatinine
4. RBS
5. Urine RME
6. CXR
7. ECG if age is more than 40 years

Special investigations:

To confirm Malignancy:

1. **Cytologic examination:** For detection of malignant cells is carried out from the fluid collected by abdominal paracentesis or "cul-de-sac"aspiration.
2. **Tumor marker:**
   - ✓ Elevated CA-125 level > 65 U/mL with a pelvic mass may be suggestive.
   - ✓ Other biomarkers: HE4, CA-19-9, CA-15-3, OVXI

To identify the extent of lesion

1. **CXR**: To exclude pleural effusion and chest metastasis.
2. **Barium enema:** To detect any lower bowel malignancy.
3. **Cytologic examination** of thoracocentesis fluid.
4. **Sonography:** Is of limited help but can be employed to detect involvement of the omentum or contralateral ovary.
5. **CT:** For retroperitoneal lymph node assessment and detection of metastasis (liver, omentum).
6. **MRI**
7. **Positron Emission Tomography (PET)**
8. Intravenous pyelography.
9. Examination under anesthesia.
10. Diagnostic uterine curettage.

To detect the Primary Site

1. Barium meal X-ray.
2. Gastroscopy/colonoscopy.
3. Mammography

Treatment:

1. **Surgery:**
   A. Early stage disease (stage ia, g1, g2):

   a. **Young woman:** Unilateral oophorectomy (fertility sparing surgery) → Routine follow up and monitoring → Completion of family → Removal of the uterus and the other ovary.

   b. **Elderly woman:** Hysterectomy and bilateral Salpingo-oophorectomy.

   c. **In Stage Ia**, **G3 disease and others stage I diseases:**

   - ✓ Staging Laparotomy → Hysterectomy and bilateral Salpingo-oophorectomy.
   - ✓ Chemotherapy is considered for most patients.

   B. advanced stage disease: Exploratory Laparotomy→ **Cytoreductive or debulking surgery**.

2. Chemotherapy:

a. In stage Ia (grade I) epithelial carcinoma → No adjuvant chemotherapy.

b. In all other stage I disease → Adjuvant chemotherapy with **carboplatin** and **paclitaxel** for six cycles.

C. Advanced stage disease.

Chemotherapy: Five or six cycles at 3-4 weekly interval

Combination chemotherapy: Paclitaxel (175 mg/m2) and carboplatin (400 mg/m2)

2. **Radiotherapy**
3. **Radioactive isotope:** Radioactive phosphorus (32P) is instilled into the peritoneal cavity
4. **Hormone therapy:** Tamoxifen, leuprolide acetate and aromatase inhibitor
5. **Immunotherapy**
6. **Gene and molecular therapy**

[D.C Dutta 7th-374-81]

Cytoreductive or debulking surgery.

This includes :

- ✓ Total abdominal hysterectomy
- ✓ Bilateral salpingo-oophorectomy
- ✓ Complete omentectomy

- ✓ Retroperitoneal lymph node sampling
- ✓ Resection of any metastatic tumor

Side effects of chemotherapy:

- ✓ Nausea
- ✓ Vomiting
- ✓ Leukaemia
- ✓ Bone marrow suppression
- ✓ Alopecia
- ✓ Cardiotoxicity
- ✓ Pulmonary fibrosis
- ✓ Allergic reaction

How will you reduce these complications?

A. Preteatment:
1. CBC
2. Liver function test: SGPT
3. Renal function test: S.creatinine

B. During treatment:
1. Steroids
2. Anti-emetic
3. H2 receptor antagonist
4. Sedation
5. Hydration adequately specially before using nephrotoxic drug e.g. cisplatin

C. **Post treatment:** According to complication

High risk women

1. Age group **40–60 years**
2. **Familial cancers :**
   - ✓ Breast
   - ✓ Endometrial
   - ✓ Ovarian
   - ✓ Colorectal
3. History of **removal of benign ovarian tumor or breast carcinoma**
4. **Postmenopausal palpable ovary** (volume > 8 cm3)
5. Relative or absolute **infertility**
6. **Dysgenetic gonad**
7. **Fertility drugs** use (incessant ovulation)
8. Women workers **in asbestos related industries**

[D.C Dutta 7th-378]

Protective factors for ovarian malignancy

1. Combined oral contraceptives
2. Pregnancy
3. Tubal ligation, hysterectomy
4. Breastfeeding

[D.C Dutta 7th-378]

Why uterus is removed in surgery for ovarian malignancy?

Because, there may be-

1. Metastasis to uterus by lymphatics
2. Serosal implants on uterus
3. Increased chance of development of uterine malignancy

Why opposite ovary is removed?

1. Increased risk of development of carcinoma in the uninvolved ovary specially in serous and endometroid variety
2. Occult metastasis or primary ovarian carcinoma may be present in the other ovary but may not be diagnosed even in wedge biopsy

Route of spread of ovarian malignancy:

1. Direct seedling to peritoneal cavity
2. Lymphatic
3. Haematogenous
4. Transcelomic

Management of ovarian tumour during pregnancy:

A. **It's better not to operate before 14-16 weeks of pregnancy:** As-
   - ✓ More chance of abortion before 14 weeks of pregnancy
   - ✓ Corpus luteal cyst may disappear
B. **Can be removed safely till 28-30 weeks:** As after that, tumour will not be readily accessible and increased chance of premature labour.
C. **During 1st week of puerperium:** Because, after that there is more chance of torsion.
D. **If causes obstructed labour:** Delivery by CS and remove the tumour in same sitting.
E. **If any complication develops e.g. torsion, rupture etc during pregnancy:** Laparotomy irrespective of gestational age
F. **Retention of urine by tumour impaction:** Removal irrespective of gestational age.

Prevention of ovarian tumour:

1. **Monitoring:** Patients with positive family history by
   - ✓ PVE

- ✓ USG
- ✓ Tumour marker etc.

2. **Follow up of persistent cyst :** If cyst persists more than 3 months

Mention some obstetrical emergencies.

1. APH
2. PPH
3. Obstructed labour
4. Ruptured uterus
5. Eclampsia, severe pre-eclampsia
6. Retention of urine

Mention some gynaecological emergencies.

1. Ruptured ectopic pregnancy
2. Septic abortion
3. Twisted ovarian tumour
4. Incomplete abortion with severe bleeding
5. Molar pregnancy with severe bleeding

UTEROVAGINAL PROLAPSE

Particulars of the patient:

Name: Mrs. Bobita

Age: 55 years

Religion: Islam

Occupation: House wife

Address: Bashabo, Dhaka

Date and Time of admission:

Date and time of examination:

If discharge present elaborate as:

Amount: Moderate

Colour: Blood stained

Odor: Not Foul smelling

Consistency: Mucoid

Associate with pruritus:

Relationship with menstruation, **pregnancy oral pill:** No

Bed No.:

Ward No.:

Reg. No.:

Chief complaints:

1. Something coming down per vagina for 5 years
2. Backache for.....

[Any discharge, urinary / defacation complains]

History of present illness:

According to statement of the patient, she was reasonably well 5 years back. Then she noticed something coming down through vagina during coughing, walking or in stressing. Initially it was small in size and repositioned spontaneously or through manual reposition. The frequency and size are increasing gradually. She is also suffering from backache for..... which is relieved by taking rest. She has no white or blood stained vaginal discharge, no H/O urinary or bowel complains. With this above situation she has got admitted to MMCH for better management.

Menstrual History:

Age of Menarche: 13 years

Menopausal for: 6 years (If menopaused)

Obstetric History:

Married for:

Para:

Age of last child:

Obstetric chart:

Sl N0	Pregnancy				Labour			Puerperium	Baby			
	Year of deliverey	Duration	ANC	Normal/ Complication	Place	Mode	Normal/ complication	N/C	Sex	Status	Feeding	Immunization

1	1984	39	Not done	No	Home	NVD	Normal	N	M	Alive	BF	Immunized
2	1987	39		No	Home	NVD	Normal	N	M	Alive	BF	Immunized
3	1990	38	Not done	No	Home	NVD	Normal	N	F	Alive	BF	Immunized
4	1995	39	Not done	No	Home	NVD	Normal	N	F	Alive	BF	Immunized
5	1997	37	Not done	No	Home	NVD	Normal	N	M	Alive	BF	Immunized

History of past illness:

She has no history HTN, DM, heart disease, asthma, TB thyroid disorders, No H/O of surgery.

Family History:

- No other member of her family suffers from such kind of illness
- No other member of her HTN, DM, TB, asthma etc.

Personal History: She has habit of taking betel nuts 4-5 times in a day, non-smoker, non-alcoholic.

Drug history: Nothing contributory

Socio-economic history: Middle class

Contraceptive history: Doesn't use any contraceptive

Immunization history: She isn't immunized.

GENERAL EXAMINATION:

Appearance: Normal

Body built: Average

Co-Operation: Co-Operative

Nutritional status: Average

Anaemia: +

Jaundice: Absent

Skin condition: Normal

Oedema: Absent

Cyanosis: Absent

Pulse: 80/min

BP: 120/80 min

RR: 16/ min

Temperature: 99^0F

Dehydration:-

Oedema: -

Breast examination: Not done

Thyroid gland: Not enlarged

SYSTEMIC EXAMINATION:

Abdominal examination:

Inspection:

- ✓ Size and shape of abdomen is normal
- ✓ Umbilicus in invented and centrally placed
- ✓ Striae albicans and gravidarum present
- ✓ No scar mark, engorged vein.

Palpation:

- ✓ Temperature normal
- ✓ No local tenderness, no muscle rigidity
- ✓ No palpable mass
- ✓ No organomegaly

Percussion: Resonant

Auscultation:

- ✓ Bowel sound is audible
- ✓ No bruit.

Pelvic examination: Not done

Other system examination: NAD

Salient feature:

Mrs. Bobita, 55 years old, Muslim housewife Para..... . ALC.....years, post-menopausal, normotensive, non-diabetic, non-smokes, non-alcoholic hailing from Muktagacha, Mymensingh admitted to MMCH on ....., 2016 with the complaints of something coming down per vagina for 5 years during coughing, walking or in stress which was reducible and small sized. Gradually frequency and size are increasing gradually. She is also suffering from backache for..... . She has no complains vaginal discharge, no urinary or bowel complains. On general examination, she is mildly anaemic, pulse 80/min, BP 120/80 mm of Hg, RR 16/min, temperature 99^0F, no dehydration, no ankle oedema. Abdominal and other system examination revealed normal and PV examination was not done.

Provisional dx: Uterovaginal prolapse (2^{nd} degree most commonly)

* If urinary complains: Cystocele

* If Bowel complains: Rectocele.

D/D:

1. Gartner's Cyst
2. Chronic inversion of uterus
3. Myometous polyp
4. Congenital elogation of cervix

Investigation:

17. CBC
18. Blood grouping and Rh typing
19. RBS
20. Fasting lipid profile
21. S. Creatinine
22. Urine RME
23. CXR PA view
24. ECG
25. USG of Whole Abdomen

Confirmatory DX: Uterovaginal prolapse

Rx:

1. General :

- Diet: 01

- Multivitamin

2. Specific: Vaginal hysterectomy with pelvic floor repair

Advice and discharge

- Catheterization for 5 day after operation
- Vaginal pack for 24 hour
- Discharge after 7 days of surgery

Follow up: After 6 weeks.

Intruduce calchefers first, then sive vaginal pack

UTEROVAGINAL PROLAPSE

Genital prolapse/Pelvic organ prolapse:

Refers to protrusions of the pelvic organs (Uterus and vagina) into or out of the vaginal canal.

[Jeffcoate's-7th-275]

Etiology of pelvic organ prolapse (pop):

A. Anatomical factors:

1. Gravitational stress due to human bipedal posture
2. Anterior inclination of pelvis directing the force more anteriorly
   Stress of parturition (internal rotation) causing maximum damage to puborectal fibers of levator ani
3. Pelvic floor weakness due to urogenital hiatus and the direction of obstetric axis through the hiatus
4. Inherent weakness of the supporting structures (Genetic)

B. Clinical factors:

1. Predisposing factors:

a. acquired trauma of vaginal delivery causing injury (tear or break) to :
- ✓ Ligaments
- ✓ Endopelvic fascia
- ✓ Levator muscle
- ✓ Perineal body
- ✓ Nerve (pudendal) and muscle damage due to repeated child birth

b. Congenital: Inborn weakness of supporting structures

2. Aggravating factors

- ✓ Postmenopausal atrophy
- ✓ Poor collagen tissue repair with age
- ✓ Increased intra-abdominal pressure as in chronic lung disease and constipation
- ✓ Occupation (weight lifting)
- ✓ Asthenia and undernutrition
- ✓ Obesity
- ✓ Increased weight of the uterus as in fibroid or myohyperplasia

[DC Dutta-7th-203]

Classification: The genital prolapse is broadly grouped into:

A. Vaginal prolapse

B. Uterine prolapse

A. Vaginal prolapse:

1. Anterior wall

a. Cystocele: Formed by laxity and descent of the upper two-thirds of the anterior vaginal wall.

b. Urethrocele: When there is laxity of the lower-third of the anterior vaginal wall, the urethra herniates through it.

2. Posterior wall

a. Relaxed perineum: Torn perineal body produces gaping introitus with bulge of the lower part of the posterior vaginal wall.

b. Rectocele: Due to laxity of the middle-third of the posterior vaginal wall and the adjacent rectovaginal septum herniation of the rectum through the lax area.

3. Vault prolapse

a. Primary: Enterocele

b. **Secondary:** following either vaginal or abdominal hysterectomy.

B. Uterine prolapse: Two types:

1. **Uterovaginal prolapse**:
   - ✓ Prolapse of the uterus, cervix and upper vagina.
   - ✓ Commonest type
2. **Congenital**

[DC Dutta-7th-204-205]

What are the degrees of uterine prolapse?

There are three degrees of prolapse. E.g.

1. **First degree:**
   - ✓ Uterus descends down from its normal anatomical position (external os at the level of ischial spines)
   - ✓ But the external os still remains inside the vagina.
2. **Second degree:**
   - ✓ The external os protrudes outside the vaginal introitus
   - ✓ But the uterine body still remains inside the vagina
3. **Third degree** (Syn: Procidentia, Complete prolapse)**:** The uterine cervix and body descends to lie outside the intriotus.

[DC Dutta-7th-205-206]

What are the different types of anterior vaginal wall prolapse ?

Upper 2/3rd : Cystocele

Lower 1/3rd: Urethrocele

Combined: Cystourethrocele.

What is the change in the vaginal and in the supravaginal part of the cervix?

1. **Vaginal part:**
   - ✓ Congested and may become infected.
   - ✓ May be bulky (edematous).
   - ✓ There may be some blood stained vaginal discharge (decubitus ulcer).
2. **Supravaginal part:**
   - ✓ Becomes elongated
   - ✓ Due to the tug of war between the cardinal ligaments to pull the uterus up and the weight of the uterus that makes it fall down through the vaginal axis.

What are the anatomical changes in the urinary system in a case of genitourinary prolapse?

- ✓ An angulation is developed between the urethra and the bladder. This may cause retention of urine.
- ✓ The ureters are dragged downwards. There may be hydroureteric changes.

Management of uterine prolapse:

Symptoms:

1. **Feeling of something coming down per vaginum:**
   - ✓ Especially while she is moving about.
   - ✓ Variable discomfort on walking when the mass comes outside the introitus.
2. **Backache or dragging pain in the pelvis:** The above two symptoms are usually relieved on lying down.
3. **Dyspareunia**
4. **Urinary symptoms**: If cystocele/urethrocele present
   - ✓ **Difficulty in passing urine:**
     - ➢ More the strenuous effort, the less effective is the evacuation.
     - ➢ The patient has to elevate the anterior vaginal wall for evacuation of the bladder.
   - ✓ **Urgency and frequency of micturition:** Due to cystitis.
   - ✓ **Painful micturition**: Due to infection.
   - ✓ **Stress incontinence:** Usually due to associated urethrocele.
   - ✓ **Retention of urine:** Rare
5. **Bowel symptom:**
   - ✓ In presence of rectocele
   - ✓ **Difficulty in passing stool:** The patient has to push back the posterior vaginal wall in position to complete the evacuation of feces. Fecal incontinence may be associated.
6. **Vaginal discharge:** Excessive white or blood-stained discharge per vaginum is due to associated vaginitis or decubitus ulcer.

Vaginal examination:

- ✓ Vaginal examination to be done in dorsal position with empty bladder
- ✓ Patient should be asked to cough
- ✓ Structures lying outside the introitus are to be noted and any associated complication should be looked for.

First degree prolapse: The cervix will come down in straining but will lie within the intriotus.

Second degree prolapse:

On inspection:

- ✓ Cervix lie outside the introitus identified by external os.
- ✓ **If cystocele present:** There will be a bulge in front of cervix which will show trasnsmitted impulse on coughing.

- ✓ **If urethrocele present:** Another smaller bulge above the cystocele.

Speculum examination: Cervix to be lifted up with one hand and Sim's speculum is to be introduced to retract the posterior vaginal wall and the speculum to be withdrawan gradually.

- ✓ **If enterocele present:** A bulge will be found in posterior fornix.
- ✓ **If rectocele present:** On further removal of the speculum, a bulge will be found in lower part of posterior vaginal wall.

Palpation: Cervix will be found between anterior and posterior vaginal wall at the level of intriotus.

Bimanual examination:

- ✓ Note the size and mobility of uterus
- ✓ Fornices should be felt to detect any degree of thickening and adhesion.

Third degree prolapse:

- ✓ Can be diagnosed by palpation.
- ✓ Anterior and posterior vaginal walls are apposed at the level of intriotus and fundus of uterus will be felt outside the uterus.

Investigations: Routine investigations for anaesthesia fitness.

1. CBC
2. Blood grouping and Rh typing
3. RBS
4. Fasting lipid profile
5. S. Creatinine
6. Urine RME
7. CXR PA view
8. ECG
9. USG of Whole Abdomen

Treatment:

A. Conservative: In case of asymptomatic women, mild degree prolapse, POP in early pregnancy..
   1. Improvement of general measures
   2. Estrogen replacement therapy may improve minor degree prolapse in postmenopausal women.
   3. Pelvic floor exercises in an attempt to strengthen the muscles (Kegel exercises).
   4. Pessary treatment.

B. Surgical:
   1. **Vaginal hysterectomy with anterior (**If cystocele present) **or posterior colpoperineorrhaphy (**If rectocele or lax perineum present)

2. **Fothergill's operation:** Performed if family is incomplete or young patient.
   [**With tubectomy:** If family complete]

[DC Dutta-7th-208-13+Lecture of MMC]

Who are the women that can be treated with pessary?

Pessary Treatment:

It should be emphasized that the pessary cannot cure prolapse but relieves the symptoms by stretching the hiatus urogenitalis, thus preventing vaginal and uterine descent.

Indications:

1. **Early pregnancy:** The pessary should be placed inside up to 18 weeks when the uterus becomes
   sufficiently enlarged to sit on the brim of the pelvis.
2. **Puerperium:** To facilitate involution.
3. Patients absolutely unfit for surgery especially with short life expectancy.
4. Patient's unwillingness for operation.
5. While waiting for operation.
6. Additional benefits: Improvement of urinary symptoms (voiding problems, urgency).

[DC Dutta-7th-211]

What is a decubitus ulcer?

It is a trophic ulcer found at the dependent part of the prolapsed mass lying outside the introitus.

Development:

- ✓ There is initial surface keratinization → cracks → infection → sloughing → ulceration.
- ✓ There is complete denudation of the surface epithelium.
- ✓ The diminished circulation is due to constriction of the prolapsed mass by the vaginal opening and narrowing of the uterine vessels by the stretching effect.

Management:

- ✓ Reposition of prolapsed part
- ✓ Vaginal pack (1 inside and 1 outside the vagina, to be changed daily)

[DC Dutta-7th-206-207+Lecture of MMC]

Post-operative management:

1. Broad spectrum antibiotic
2. **Continuous catheterization for 3-5 days:** To rest the bladder
3. **Vaginal pack for 24 hours:**
   - ✓ To prevent reactionary haemorrhage
   - ✓ After 24 hours vaginal pack to be removed as there will be chance of infection.

Why does reactionary haemorrhage occur?

Slippage of ligature and wide dissection

What are the best timing for surgery?

1. When involution is complete: At least 6 months after delivery.
2. One week after cessation of menstruation phase: To minimize bleeding
3. After healing of decubitus ulcer

Differential Diagnosis:

Cystocele: The cystocele is often confused with a cyst in the anterior vaginal wall, the commonest being Gartner's cyst.

Gartner's cyst: Retention cyst in remnants of Wolffian duct.

Features:

1. Situated anteriorly or anterolaterally and of variable sizes.
2. Rugosities of the overlying vaginal mucosa are lost.
3. Vaginal mucosa over it becomes tense and shiny.
4. Margins are well-defined.
5. Not reducible.
6. No impulse on coughing.
7. Metal catheter tip introduced per urethra fails to come underneath the vaginal mucosa.

[DC Dutta-7th-210]

Uterine Prolapse:

A. Congenital elongation of the cervix:

1. It is unassociated with decent of uterus (usually).
2. Vaginal part of the cervix is elongated.
3. External os lies below the level of ischial spines.
4. Vaginal fornices are narrow and deep.
5. Cervix looks conical.
6. Uterine body is normal in size and in position.

B. Chronic inversion:

1. Leading protruding mass is broad.
2. No opening visible on the leading part.
3. Looks shaggy.
4. **Internal examination:** Cervical rim is on the top around the mass.
5. **Rectal examination:** Confirms the absence of the uterine body and a cup-like depression is felt.

C. Fibroid polyp:

1. The mass is saggy with a broad leading part.
2. No opening is visible on the leading part.
3. Internal examination reveals the pedicle coming out through the cervical canal or arising from the cervix.
4. Rectal examination reveals normal shape and position of the uterus.

[DC Dutta-7th-210]

How you can clinically differentiate a third degree uterine prolapse from a second degree one?

- ✓ **On inspection:** In both the degrees of prolapse, the mass protrudes out through the introitus and the leading part of the mass is the external os.
- ✓ **On palpation:** Get over test
  - ➢ The thumb of the left hand is placed anteriorly and the middle and the index fingers are placed posteriorly.
  - ➢ The fingers should be placed above the mass and outside the introitus.
  - ➢ If the fingers can be apposed, it is a third degree prolapse

What other associated pathological conditions must be looked for during examination?

- ✓ Abdominal and pelvic examination for any pelvic mass
- ✓ Urinary incontinence,
- ✓ Cystocele
- ✓ Rectocele
- ✓ Enterocele
- ✓ Decubitus ulcer.

Why prolapse is common after menopause?

1. Uterus becomes atrophied
2. Ligaments become lax
3. Oestrogen deficiency

What is the indication of Fothergill's operation ?

- ✓ This is mainly done for a young woman where preservation of the uterus is desired either for reproductive function or for menstrual function.
- ✓ Where childbearing function is not needed (family completed), this operation may be combined with (vaginal/abdominal) sterilization procedure.

What are the composite steps of this Fothergill's operation ?

1. Initial dilation and curettage
2. Amputation of cervix
3. Fixation of Mackenrodt's ligaments in front of the cervix
4. Anterior colporrhaphy
5. Colpoperineorrhaphy.

What is Fothergill's stitch ?

It is the stitch that fixes the Mackenrodt's ligament to the anterior surface of the cervix to make the uterus anteverted.

What are the complications of Fothergill's operation?

During operation:

- ✓ Hemorrhage
- ✓ Injury to the bladder and rectum

Postoperative:

- ✓ Retention of urine or cystitis
- ✓ Hemorrhage: Primary or secondary
- ✓ Infection

Late:

- ✓ Dyspareunia
- ✓ Cervical stenosis-hematometra
- ✓ Infertility
- ✓ Cervical incompetency
- ✓ Cervical dystocia in labor

[DC Dutta-7th-223]

What are the complications of vaginal hysterectomy with pelvic floor repair operation?

A. During operation:
- ✓ Hemorrhage
- ✓ Trauma to bladder or rectum.

B. **Immediate**
- ✓ Vault cellulitis
- ✓ Pelvic abscess
- ✓ Thrombophlebitis
- ✓ Pulmonary embolism

C. Postoperative (early):
- ✓ Retention of urine
- ✓ Hemorrhage
- ✓ Urinary tract infection.

D. Late:
- ✓ Dyspareunia
- ✓ Recurrence of prolapse.
- ✓ Vault prolapse

[DC Dutta-7th-222-23]

Clamps in abdominal hysterectomy:

1st clamp:

1. Fallopian tube
2. Round ligament
3. Ovarian ligament
4. Meso-salpinx

2nd clamp:

1. Uterine artery
2. Base of broad ligament

3rd clamp:

1. Meckenrodt's ligament
2. Uterosacral ligament
3. Cervical artery

Types of hysterectomy:

1. Abdominal
2. Vaginal

Types of abdominal hysterectomy:

1. Total
2. Sub-total
3. Radical or Wertheim's

Indications of total abdominal hysterectomy:

Benign lesions:

1. Dysfunctional uterine bleeding
2. Fibroid uterus
3. Tubo-ovarian mass
4. Endometriosis
5. Adenomyosis
6. Endometrial hyperplasia
7. Benign ovarian tumor in perimenopausal age

Malignancy:

1. Carcinoma endometrium
2. Carcinoma cervix upto stage IIa
3. Carcinoma ovary
4. Choriocarcinoma

Traumatic: Uterine perforation

Obstetrical:

1. Atonic PPH
2. Morbid adherent placenta
3. Hydatidiform mole > 35 years
4. Septic abortion

[DC Dutta-7th-593]

Indication of vaginal hysterectomy:

1. Third degree Uterovaginal prolapse
2. Second degree Uterovaginal prolapse
3. Urerovaginal prolapse with disease of uterus e,g. DUB, small fibroid

Indications of sub-total hysterectomy:

1. Uncontrolled PPH
2. Ruptured uterus
3. Extensive PID
4. Endometrosiosis involving recto-vaginal septum
5. Disease of uterus like multiple fibroid

Indication of Wertheim's hysterectomy:

1. Carcinoma cervix upto stage IIa
2. Carcinoma uterus

What are the contraindications of hysterectomy?

1. Endometriosis
2. Big fibroid
3. Associated PID
4. Previous surgery with associated adhesion

How will you counsel a patient of hysterectomy?

1. This surgery is best suited for you as you are an aged person and your family is complete
2. After surgery, there will be no menstruation but there will be no physiological hazard as well.

What factors aggravate genitourinary prolapse ?

- ✓ Postmenopausal tissue atrophy
- ✓ Chronic cough and constipation
- ✓ Obesity
- ✓ Under nutrition.

What is congenital prolapse?

- ✓ Prolapse due to congenital weakness of the supporting structures of the uterus.
- ✓ Commonly seen in nulliparous women.
- ✓ Congenital prolapse is not associated with cystocele.

What is the common operation for congenital or nulliparous prolapse ?

Cervicopexy or sling operation (Purandare's operation).
In this operation the cervix is pulled up abdominally. Strips of rectus sheath or Marlex or Goretex (synthetic) tapes are used.

How can you prevent prolapse?

The following guidelines may be prescribed to prevent or minimize genital prolapse.

1. Adequate antenatal and intranatal care:To avoid injury to the supporting structures during the time of vaginal delivery either spontaneous or instrumental.

2. Adequate postnatal care:

- ✓ To encourage early ambulance.
- ✓ To encourage pelvic floor exercises by squeezing the pelvic floor muscles in the puerperium.

3. General measures:

- ✓ To avoid strenuous activities, chronic cough, constipation and heavy weight lifting.
- ✓ To avoid future pregnancy too soon and too many by contraceptive practice.

[DC Dutta-7th-210]

Complications:

1. **Keratinization of the Vagina**:

- ✓ In epithelium of the prolapsed vaginal walls and of the portio vaginalis
- ✓ Due to being constantly exposed to the air and possibly to trauma.
- ✓ Becomes thickened, corrugated and white with keratin.

2**. Decubital Ulceration**

3. **Hypertrophy of the Cervix**

4. **Congestion and Oedema:**

- ✓ Downward displacement of the uterus puts tension on the descending vascular connections of the cervix.
- ✓ Thus interfering with the venous and lymphatic drainage.

5**. Glandular Hypertrophy** ('adenomatous change'): The state of chronic congestion sometimes leads to actual hypertrophy or hyperplasia of the glandular and connective tissue elements in the cervix.

6. Obstructive Lesions of the Urinary Tract:

- ✓ **Hypertrophy of the bladder walls and trabeculation:** A large cystocele, with angulation of the urethra during straining, causes difficulty in emptying the bladder
- ✓ **Hydroureter and hydronephrosis:** Due to Back pressure from the bladder and obstruction of the lower ureter.

7. Infection of The Urinary Tract

8. Renal Failure

9. Incarceration of the Prolapse: Extruded cervix & adjacent vaginal walls sometimes become so congested and oedematous that the patient finds the prolapse irreducible..

10. Carcinoma of the Cervix or Vagina: Rarely seen

[Jeffcoate's-7th-279-81]

Normal position of uterus:

- ✓ Anteverted and anteflexed position.
- ✓ It lies in between the bladder and rectum.

What are the important supports of the uterus?

Supports of the uterus are described in a three tier system.

Upper tier: Indirect support to maintain the anteverted position of the uterus.

1. Endopelvic fascia
2. Round ligaments
3. Broad ligaments with intervening pelvic cellular tissues.

Middle tier: Direct and strongest support

1. Endopelvic fascia
2. Pericervical ring of fascia
3. Mackenrodt's ligaments
4. Uterosacral ligaments
5. Pubocervical ligaments

Inferior tier: Indirect support

1. Pelvic floor muscles (levator ani)
2. Levator plate
3. Perineal body
4. Endopelvic fascia
5. Urogenital diaphragm

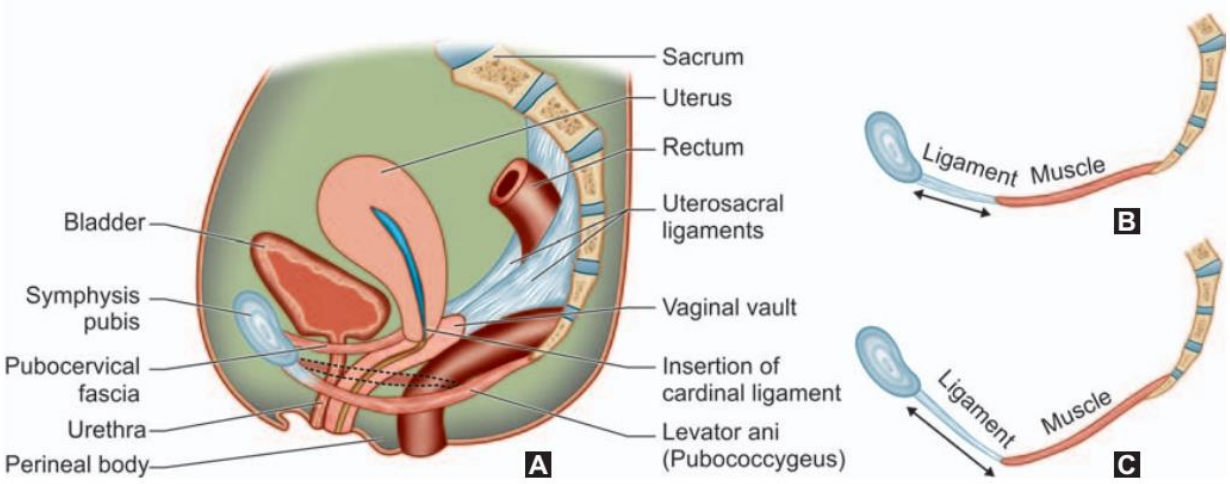


Figure: Supports of uterus

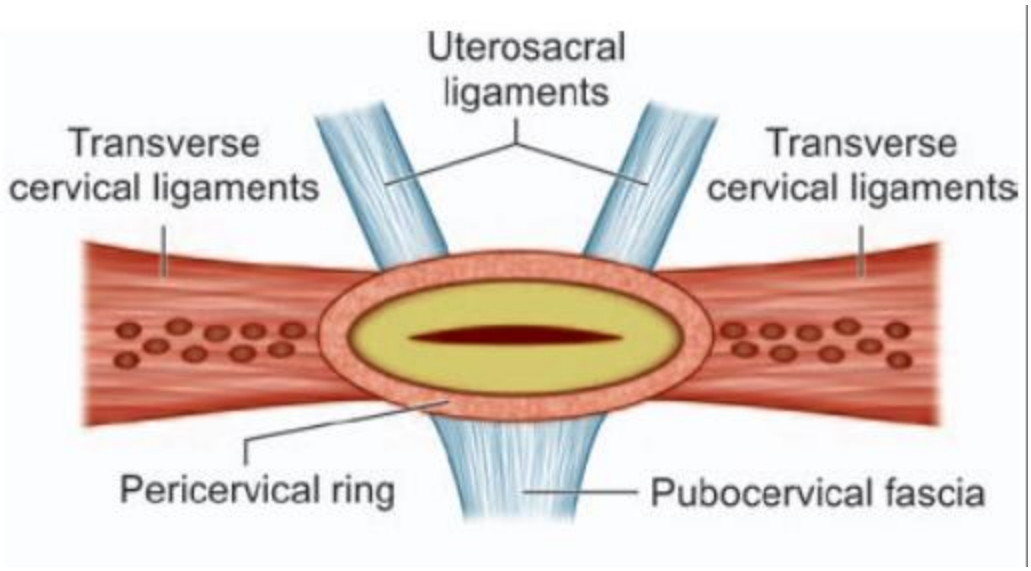


Figure: Lagamentous supports of uterus

[DC Dutta-7th-201-03]

What important factors are generally considered before deciding the appropriate treatment for prolapse ?

1. Age
2. Parity
3. Desire for future childbearing
4. Associated pelvic pathology
5. Assessment of general health

What is levator plate and what is its function ?

- ✓ It is a thick band of connective tissue formed by the medial fibers of the two levator ani muscles.
- ✓ It is the anococcygeal raphe extending from the anorectal junction to the coccyx.
- ✓ The anterior fibers encircle the anorectal junction and are inserted in the perineal body.
- ✓ The levator plate forms a horizontal supportive shelf upon which the rectum, upper vagina and uterus rest. The levator plate thus prevents genital organ prolapse.
- ✓ When levator plate is damaged, the genital organs prolapse

ECTOPIC PREGNANCY

Particulars of the patient:

Name: Mrs. Kareena Kapoor

Age: 33 years

Occupation: Housewife

Religion: Islam

Address: Brahmopalli, Mymensingh

Date and Time of Admission:

Date and time examination:

Bed No.:

Ward No.:

Reg. No.:

C/C:

1. H/O laparotomy 3 days back.
2. Slight lower abdominal pain for 3 days.

History of present illness:

According to statement of the patient, she was amenorrhoicc for 8 weeks. 3 days back, she suddenly developed Severe lancinating pain in one lower abdomen with fainting attack and with pain in shoulder tip. She also developed per vaginal bleeding which was sanguinus and dark coloured for same duration. She was then hospitalized and diagnosed at reptured ectopic pregnancy and laparotomy was done. Now she has slight lower abdominal pain at stich area and but no fever or discharge. She had no nausea, vomiting. Bowel bladder habit normal.

Menstrual History:

Age of Menarche: 13 years

MP/MC: 5/ 28 (±2) days

Menstrual flow: Average

1st day of LMP:

Obstetric history:

Married for:

Para:

Gravida:

Age of last child:

Obstetric chart:

Sl N0	Pregnancy				Labour			Puerperium	Baby			
	Year of deliverey	Duration	ANC	Normal/ Complication	Place	Mode	Normal/ complication	N/C	Sex	Status	Feeding	Immunization

Contraceptive history: She is using IUCD for last 1 year

History of past illness: She has no history of

-DM

-HTN

-Rhematic heart disease

- Renal disease

- Thyroid disorder

- Any Chronic illness.

Drug History: She is taking taking some drugs but couldn't mention the name, dose and duration

Family History:

- No other member of her family suffered from such kind of illness
- No other member of her family suffered from HTN, DM. TB asthma.

Personal History: Non, Smoker, non-alcholic

Immunization History: She gas got TT vaccine in full dose.

Socio-economic history: Middle class

GENERAL EXAMINATION:

Appearance: Ill looking

Body built: Average

Co-Operation: Co-Operative

Nutritional status: Average

Anaemia: +

Jaundice: Absent

Skin condition: Normal

Oedema: Absent

Cyanosis: Absent

Pulse: 80/min

BP: 120/80 min

RR: 16/ min

Temperature: 99^0F

Dehydration:-

Oedema: -

Breast examination: Not done

Thyroid gland: Not enlarged

SYSEMIC EXAMINATION :

Per-abdomen:

Inspection:

- ✓ There is a vertical bandage on abdomen which is not soaked.
- ✓ Stich is healthy, no discharge
- ✓ Umbilicus central, evented

Palpation:

- Tenderness: Present
- Temperature: Not raised
- No organomegaly

Percussion: Resonant

Auscuttation: Bowel sound present

Pelvic examination: Not done

Other system examination: NAD

Salient feature:

Mrs. Kareena Kapoor, Para....+....., ..years old muslim, housewife, normotensive, non-diabetic, non-smoker, non-alcoholic hailing from Brahmopalli, vMymensingh admitted to MMCH with the complaints of amenorrhoea for 8 weeks. 3 days back, she suddenly developed Severe lancinating pain in one lower abdomen with fainting attack and with pain in shoulder tip. She also developed per vaginal bleeding which was sanguinus and dark coloured for same duration. She was then hospitalized and diagnosed at reptured ectopic pregnancy and laparotomy was done. Now she has slight lower abdominal pain at stich area and but no fever or discharge. She had no nausea, vomiting. Bowel bladder habit normal. She was using IUCD for last one year. On general examination, she is mildly anaemic, pulse 80/min, BP 120/80 mm of Hg, RR 16/min, temperature 99^0F, no dehydration, no ankle oedema. On examination per abdomen, There is a vertical bandage on abdomen which is not soaked, Stich is healthy, no discharge**,**

tenderness Present, temperature: Not raised**,** Bowel sound present. Pelvic examination not done and other system examination reveals no abnormality.

Provisional diagnosis: ..... Post operative day of laparotony due to ruptured ectopic pregnancy.

Investigation:

1. Hb%
2. RBS

Rx.:

1. Analgesic
2. Antibiotic
3. Regular dressing
4. Nutritous diet

ECTOPIC PREGNANCY

Definition:

An ectopic pregnancy is one in which the fertilised ovum becomes implanted in a site other than the normal uterine cavity.

[Jefcoate's-142]

Sites of Ectopic Pregnancy: Above downwards and according to frequency.

1. Abdominal cavity
2. Ovary
3. Fallopian tubes
4. Broad ligament
5. Rudimentary horn of uterus
6. Cervix

[Jefcoate's-142]

Risk Factors:

1. Pelvic inflammatory diseases
2. Use of IUCD's
3. Smoking ART pregnancies
4. Tubal damage
5. Tubal Surgery

6. Salpingitis isthimica nodosa
7. Prior ectopic pregnancy
8. Age
9. Non-white race
10. EndometriosisDevelopmental errors
11. Overdevelopment of ovum and external migration.

[Jefcoate's-143]

Aetiology (causes):

1. **Pelvic inflammatory disease:** Commonest cause
2. **Use of IUCD's:** Progesterone devices may alter tubal motility and polarity and hence lead to abnormal implantation.
3. **Smoking**: Nicotine is thought to alter tubal motility, ciliary activity and blastocyst implantation.
4. **ART**
5. **Surgical Obstruction (Tubal damage)**
6. **Tubal Surgery**
7. **Salpingitis Isthimica Nodosa:** a condition seen in chronic infections like tuberculosis and in this the tubal epithelium extends into the myometrium and forms a true diverticulum where the blastocyst is likely to implant.
8. **Prior Ectopic Pregnancy**
9. **Age:** In older the age, more likelihood of a chromosomally abnormal blastocyst and more likelihood of this abnormal embryo implanting at an abnormal site.
10. **Non-white race**
11. **Endometriosis:**

✓ Endometriosis of fallopian tubes leads to a patchy differentiation of endosalpinx into endometrium and this may provide as a site for implantation.
✓ Adhesions and faulty transport within tube may also be a reason.

12. **Developmental Errors of the Tube**
13. **Overdevelopment of the Ovum—External Migration of the Ovum**

[Jefcoate's-143-44]

Pregnancy Outcome

1. Tubal abortion
2. Complete absorption
3. Complete abortion
4. Incomplete abortion
5. Missed abortion (Tubal Mole)
6. Tubal rupture

7. Chronic ectopic adnexal mass
8. Foetal survival to term.

[Jefcoate's-145]

Management of ectopic pregnancy:

Symptoms and

1. Short period of amenorrhoea
2. Vaginal bleeding
3. **Acute Abdominal pain:** Severe lancinating pain in one iliac fossa or in the hypogastrium
4. **Collapse**
5. Adnexal mass (with or without tenderness)
6. Signs of peritoneal irritation

Signs:

G/E:

- ✓ Pallor
- ✓ Low blood pressure
- ✓ Subnormal temperature
- ✓ Weak rapid pulse

Per abdomen:

- ✓ Acutely tender
- ✓ **Dullness in the flanks:** By presence of free blood in the peritoneal cavity

Per vaginal: Should not ordinarily be carried out for fear of precipitating more bleedin

- ✓ Enlargement of one adnexum
- ✓ Acute tenderness and the production of pain by movement of the cervix

Differential Diagnosis

A. **Obstetric diseases:**

1. Abortion of an early intrauterine pregnancy
2. Abortion followed by salpingitis
3. Early pregnancy with pelvic Tumours
4. Retroverted gravid uterus (Threatened abortion)
5. Septic abortion

B. **Gynaecological diseases:**

1. Degenerating fibroid

2. DUB
3. Endometriosis
4. Ovulation (Mittleschmerz)
5. Ruptured corpus luteum
6. Torsion of adnexal mass
7. Acute or subacute salpingitis (including tuberculosis)
8. Dysmenorrhoea

C. **Non-gynaecological conditions**:

1. Appendicitis
2. Gastroenteritis
3. Mesentric thrombosis
4. Perforated peptic ulcear
5. Renal colic
6. Intraperitoneal haemorrhage from any source

[Jefcoate's-147-50]

Investigations:

1. Hb%
2. Blood grouping and Rh typing
3. Ultrasounography
4. Pregnancy test
5. β−HCG

Treatment:

A. Resuscitation:
1. IV fluid
2. Blood transfusion
3. Analgesic
4. Antibiotic
5. Catheterization

B. Specific management:
1. **Ruptured:**
   - ✓ **Extensive damage to tube:** Salpingectomy
   - ✓ **Little tubal damage:** Repair salpingostomy
2. **Unruptured:** Salpingostomy or salpingectomy following laparotomy or laparoscopy

[OGSB Protocol-34]