Malpresentation

Dr. Kakali Saha
MBBS, FCPS, MS (OBS& GYNAE)
Associate Professor
Medical College for Women & Hospital

Definition of Malpresentation

- It is defined as any presentation of foetus other than vertex.

- **<u>What is presentation?</u>**

✴The part of the foetus which occupies the lower pole of uterus (pelvic brim) is called presentation of the foetus. Presentation like **cephalic 96.5%, podalic 3% or shoulder** and others 0.5%.

- **<u>What is presenting part?</u>**

✴The presenting part is defined as the part of the presentation which overlies the internal os & felt by examining finger through the cervical opening. Thus, in cephalic presentation, presenting part may be **vertex, brow or face** depending on degree of flexion or head.

Types

- Name some Mal presentation:

✤ Breech presentation. Most commonest malpresentation.

✤ Brow presentation

✤ Face presentation

✤ Shoulder presentation

✤ Dorsal presentation

✤ Compound presentation

✤ Cord presentation

Face Presentation

Rare variety

- When face of cephalic presentation of the foetus overlies the internal os is called **face presentation.**
- The attitude of the foetus shows complete flexion of the limbs with extension of the spine.
- There is complete extension of the head so that the occiput is in contact with back.
- The denominator is mentum (chin).

Position

- There are four positions of face according to the relation of the chin to the left & right sacroiliac joints or to the right & left iliopubic eminences. This presentation results most likely from complete extension of deflexed head of a vertex presentation. The numbering of the face positions is obtained as follows:

✴**First vertex (LOA)position**- Becomes 1st Face -right mentoposterior (RMP)

✴**Second vertex (ROA)position**- Becomes 2nd Face -left mentoposterior (LMP)

✴**Third vertex (ROP)position-** Becomes 3rd Face -left mentoanterior (**LMA**)

✴**Fourth vertex (LOP)position-** Becomes 4th Face -right mentoanterior (RMA)

✴The commonest is the **LMA-** as ROP is 5 times more common than LOP. Face occur from deflexed OP, so LMA is common.

✴Overall anterior positions are more frequent than the posterior one.

Incidence

- Incidence is about 1 in 500 births.
- Face presentation present during pregnancy is rare, while developing after the onset of labour (secondary) is common.
- It occurs more frequently in multiparae (70%).

Etiology

The cause of extreme extension of the head remain obscure

- Following are the factors which are often associated.
- Maternal Factors -

(a) Multiparty with pendulous abdomen,

(b) Latereal obliquity of the uterus especially, if it is directed to the side towards which the occiput lies.

(c) Contracted pelvis is associated in about 40% cases. Flat pelvis favours face presentation

(d) Pelvic tumours

Etiology

- Foetal Factors -
- (1) Congenital malformations (15%)-

(a) Commonest one is **anencephaly**. The almost non-existent neck with absence of the cranium makes it easy to feel the facial structure even with semi-extended head.

(b) Congeital goitre- prevalent in endemic area.

(c) Dolichocephalic head with long anteroposterior diameter,

(d) Congenital branchocele

- (2) Twist of the cord several turns round the neck.
- (3) Increased tone of the extensor group of neck muscle

Mechanism of labour in face presentation

Mento-anterior position 60-80% (LMA or RMA)

- Principle of movements are like those of corresponding occipitoanterior position.
- The exceptions are increasing extension instead of flexion & delivery by flexion instead of extension of the head.
- Engagement : the diameter of engagement is the oblique diameter- right in LMA, left in RMA, with the mentum related to one ilio-pubic eminence & the grabella to the opposite sacroiliac joint.

Face delivery

- The **engaging diameter** of the head is submento-bragmatic (9.5 cm) in fully extended head or submento-vertical (11.5 cm) in partially extended head. Engagement is delayed because of long distance between the mentum & biparietal plane (7 cm).
- **Descent with increasing extension** occurs till the chin touches the pelvic floor.
- **Internal rotation of the chin** occurs through 1/8 of the circle anteriorly, placing the mentum behind the symphysis pubis.
- Farther **descent** occurs till the submentum hinges under the pubic arch.
- **Delivery of the head-** the head is born by flexion delivering the chin, face, brow, vertex and lastly the occiput. The diameter distending the vulval outlet is submentovertical- 11.5 cm.
- **Restitution** occurs through 1/8 of the circle opposite to the direction of the internal rotation.
- **External rotation** occurs further 1/8 of the circle to the same side of restitution so that ultimately the face looks directly to the left thigh in LMA & right thigh in RMA. This follows **delivery of the anterior shoulder** followed by the **posterior shoulder and the rest of the truck** by lateral flexion.

Mento posterior (MPP)

RMP or LMP (20-25%)

- The cardinal movements in the mechanism of MPP is like those of OPP. The salient differentiating features are -
- (i) here ant rotation of mentum occur in only 20 -30% cases.
- (ii) in the rest (70-80%) incomplete, non rotation or short post rotation of the mentum occurs. Arrest occurs in all these positions with average pelvis & fetalhead.
- There is no possibility to spontaneous delivery in persistent MPP and labour becomes obstructed. See fig.

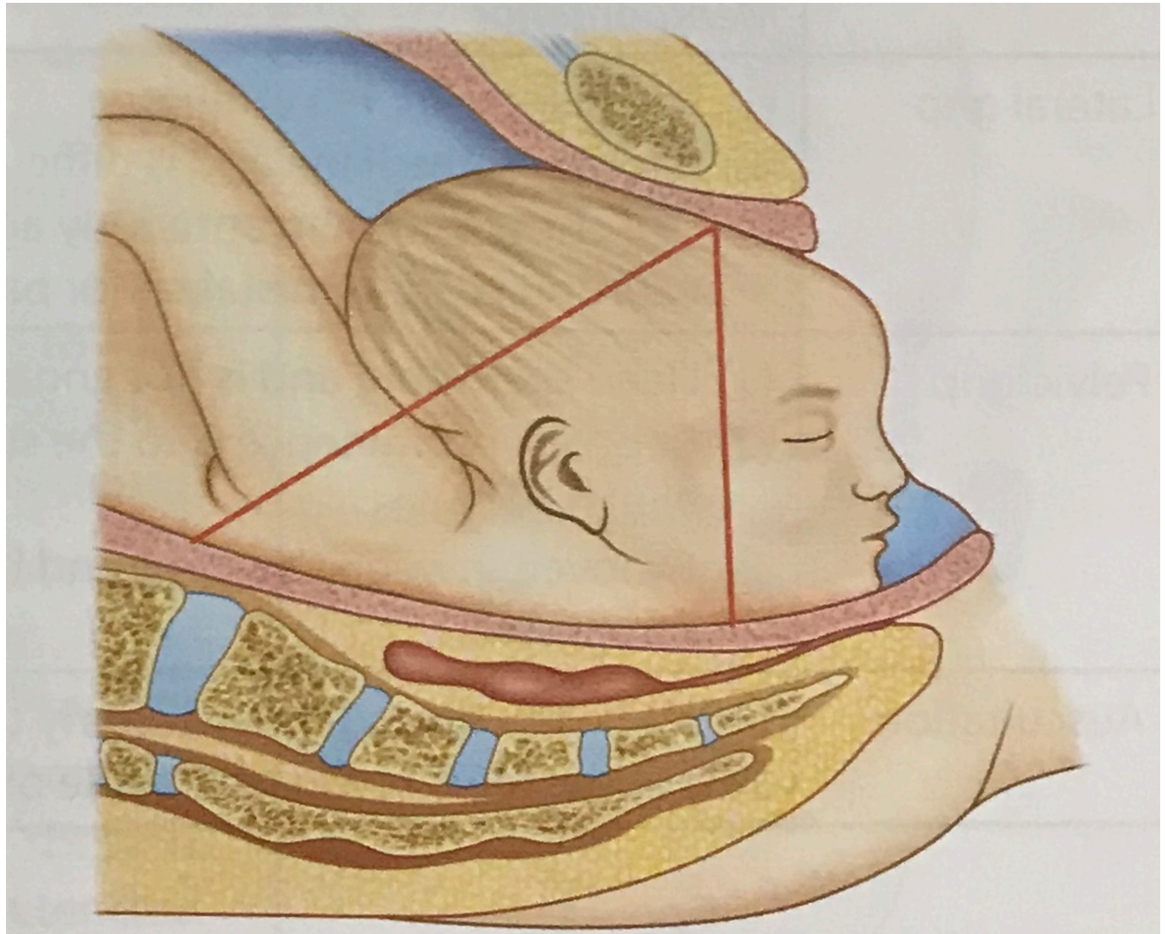


Fig. 25.23: Head cannot extend further, nor flexion is possible. Bregmaticsternal diameter (18 cm or 7") cannot be accommodated in the pelvis resulting in obstructed labor

Diagnosis

Diagnosis is made only during labour

- Diagnosis is made only during labour but in about half, the section is made at the time of delivery.
- Abdominal findings
- Inspection: because of 'S' spine, there is no visible bulging of the flanks
- Palpation: the diagnosis in mentoanterior & mentoposterior are tabulated next:

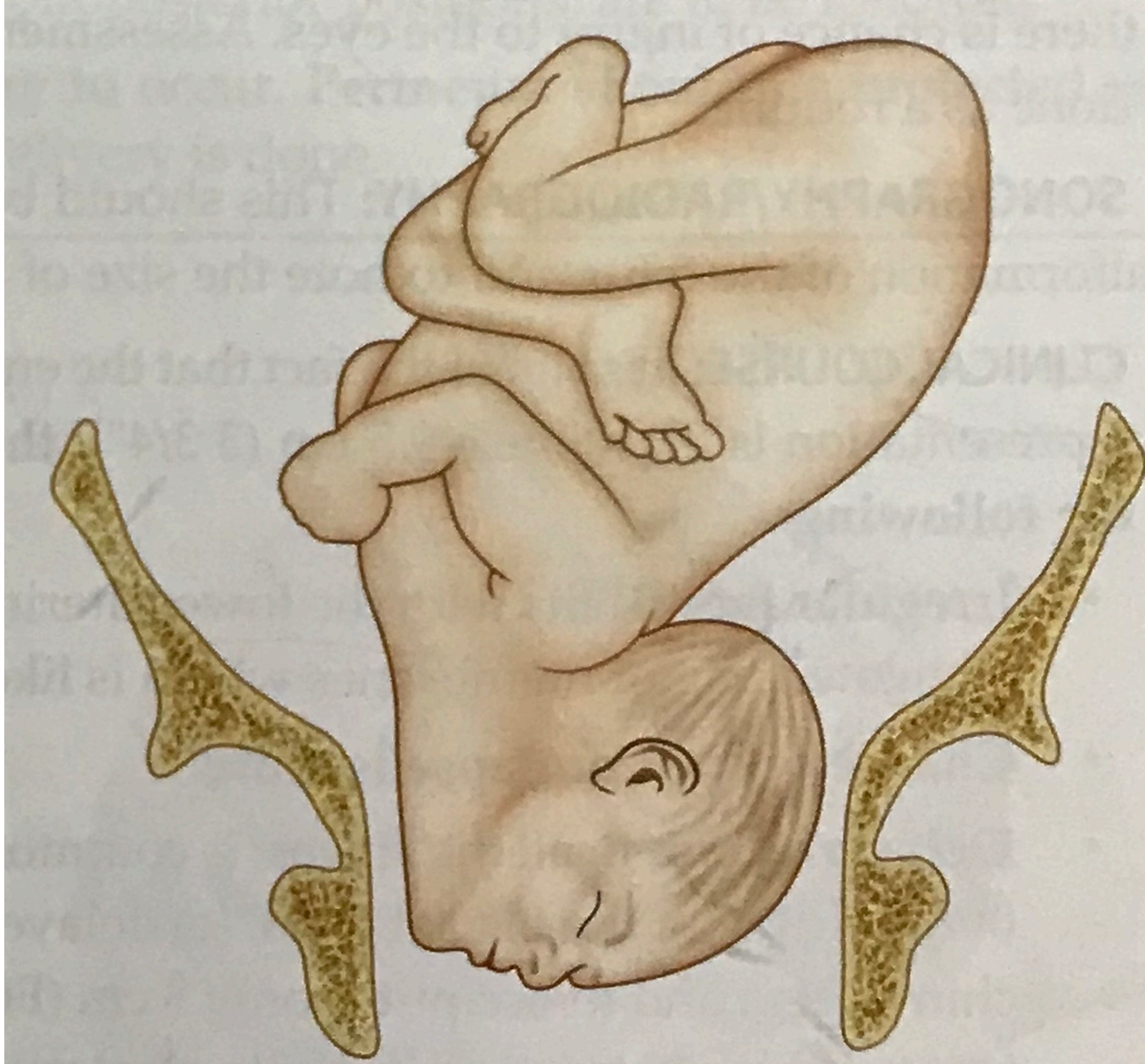


Fig. 25.24: Chief features to be recognized on abdominal examination in face presentation

	Mentoanterior	*Mentoposterior*
Lateral grip	(1) Fetal limbs are felt anteriorly. (2) Back is on the flank and is difficult to palpate. (3) The chest is thrown anteriorly against the uterine wall and is often mistaken for back	(1) Back is felt to the front and better palpated only towards the podalic pole because of extension of spine.
Pelvic grip	(1) Head seems big and is not engaged. (2) Cephalic prominence is to the side towards which back lies (3) Groove between the head and back is not so prominent.	(1) Same (2) Same (3) The groove is prominent.
Auscultation	FHS is distinctly audible anteriorly through the chest wall of the fetus towards the side of limbs	FHS is not so distinct and is audible on the flank towards the side of limbs.

Vaginal examination

- The diagnostic features are palpating the mouth with hard alveolar margins, nose, malaria eminences, supraorbital ridges & mentum.
- In early labour, because of high head & sausage shaped bag of membranes, the parts are not clearly defined.
- In late labour, the parts are often obscured due to edema.

Fig. 25.25: Vaginal touch picture showing landmarks in mento-

Diagnosis

Cont.

- In late labour, it is confused with breech presentation. The distinguishing features are-

(1) The mouth and the malaria eminences are not in a line; but in breech, the anus & the ischial tuberosities are in one line,

(2) Sucking effect of mouth, whereas anal grip in breech presentation

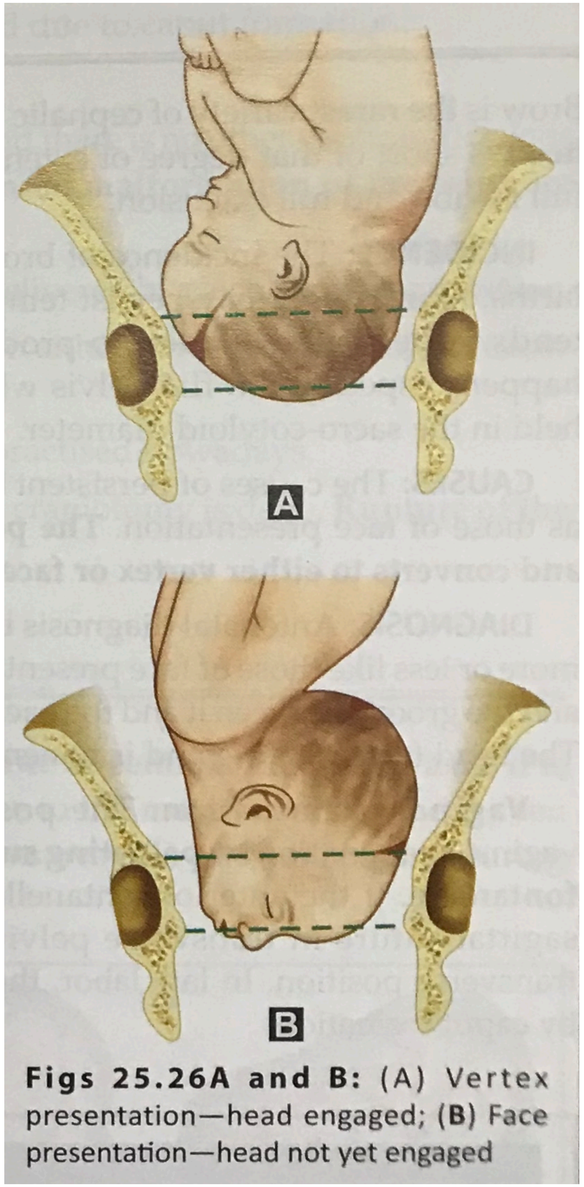
(3) Hard alveolar margins,

(4) Absence of meconium staining on the examination fingers.

- The mentum & the mouth should be identified to exclude brow presentation & to identify the position.
- There is chance of injury to the eyes, so perform gentle examination
- Assessment of the pelvis should be done as a routine.

Diagnosis

- USG: should be done to exclude Cong. Malformation & to note size the baby.
- Clinical course: the engaging diameter is same in flexed vertex & face 9.5 cm but clinical course is adversely affected in face because of the following:
- Irregular face ill fits with the lower ut segment. The poor ball -valve action results in formation of elongated bag of membranes which is likely to ruptuer early.
- Chance of cord prolapses more
- Delay of labour in all stages
- Chance of perineal damage is more
- PPH is more due to atonic ut & trauma following operative delivery



Figs 25.26A and B: (A) Vertex presentation—head engaged; (**B**) Face presentation—head not yet engaged

Prognosis

- Maternal: in mentoanterior risk is less. There is increased morbidity due to operative delivery & vag manipulation. In neglected cases, the risks of impacted mentoposterior leading to obstructed labour & ruptured uterus.
- Foetal : adversely affected due to

-cord prolapse, increased op delivery, cerebral congestion, neonatal infection due to bact contamination.

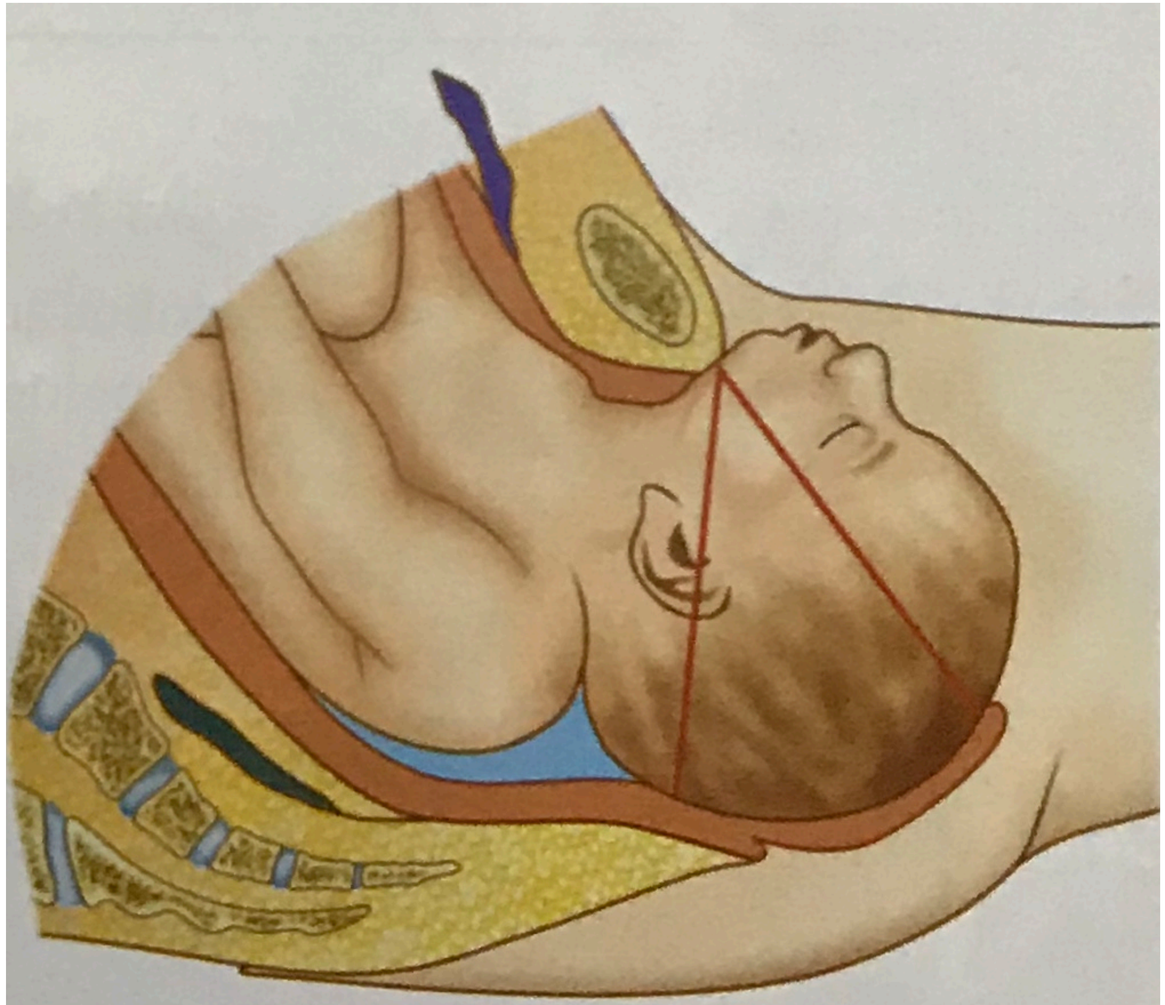


Fig. 25.27: Submentovertical diameter (11.5 cm or 4 1/2") emerges out of the introitus

Caput and moulding

- Due to poor venous return from the head & neck, marked caput forms, distorting the entire face. The lips & the eyelids are markedly swollen with considerable appearance of bruising. There is no compression of the facial bones but there is elongation of occipito-frontal diameter. The extended attitude of the head, swelling of the face & the elongation of the head subside within a few days.

Management

Overall assessment of the case is to be done to note-

(1) Pelvic adequacy (clinical)

(2) Size of the baby

(3) Associate complicating factors, if any, like elderly primigravidae, severe pre-eclapmsia, post caesarean pregnancy & post maturity

(4) Congenital foetal malformation

(5) Position of the mentum.

- Indication of elective or early caesarean section- (1) contracted pelvis,(2) big baby, (3) associated complicating factors.

Mentoanterior

- **First stage:** in uncomplicated cases, wait & watch policy is adopted. Labour is conducted in the usual procedure & the special instruction, as laid down in OPP, are to be followed.
- **Second stage:** should wait for sp delivery occur. Perineum should be protected with liberal episiotomy.
- In case of delay, forceps delivery is done.

Mento posterior

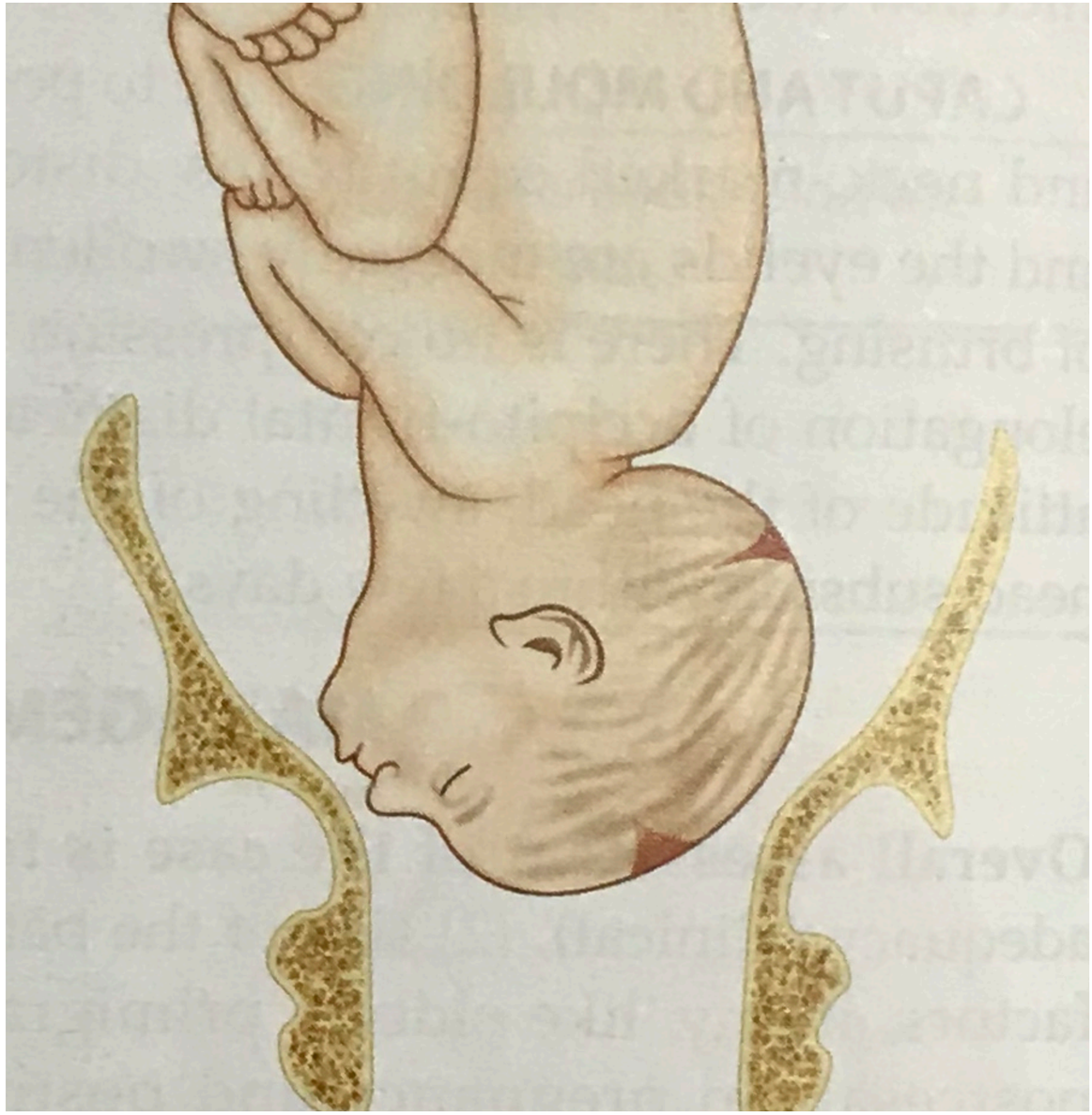
- **First stage:** in uncomplicated cases, vaginal delivery is allowed with strict vigilance hoping for spontaneous ant rotation of the chin.
- **Second stage:** (1) If ant rotation of th chin occurs, spontaneous or forceps delivery with episiotomy is all that is needed. (2) In incomplete or malrotation: Early decision for the method of delivery is to be taken soon after full dilatation of the cervix. The following methods may be employed to expedite the delivery
- Caesarean delivery preferred now a days
- Manual rotation of the chin anteriorly followed by immediate forceps delivery is done.
- The principles & the method are similar to those employed in unrotated OPP.

Brow presentation

Rarest variety of cephalic presentation

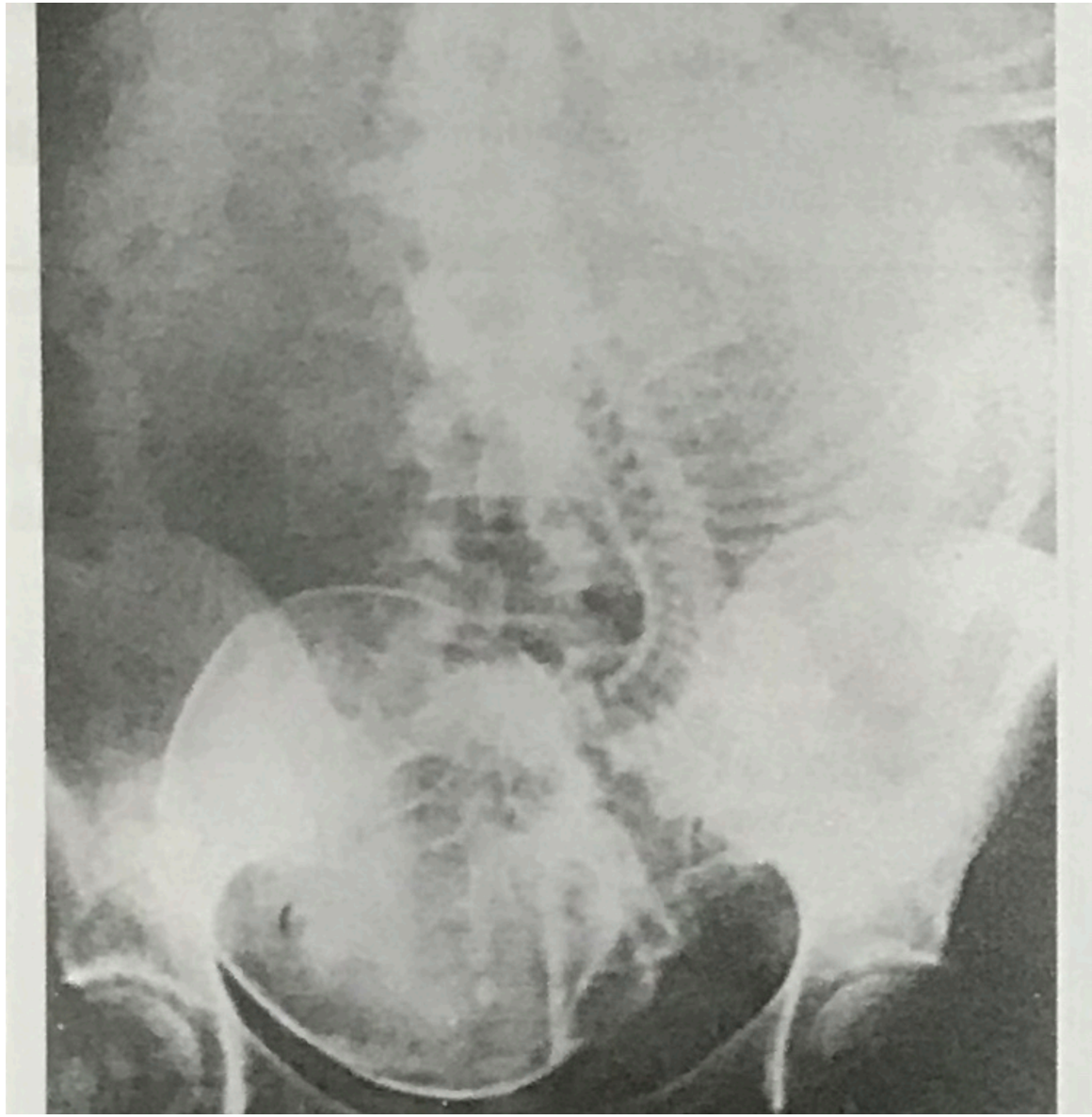
- Incidence : about 1 in 100 births
- Causes: same as those of face presentation
- Position: unstable & converts to either vertex or face presentation
- Diagnosis: findings are like as face

➡ Cephalic prominence & the groove between it & the back are less prominent. The head feels very big & is nonengaged.



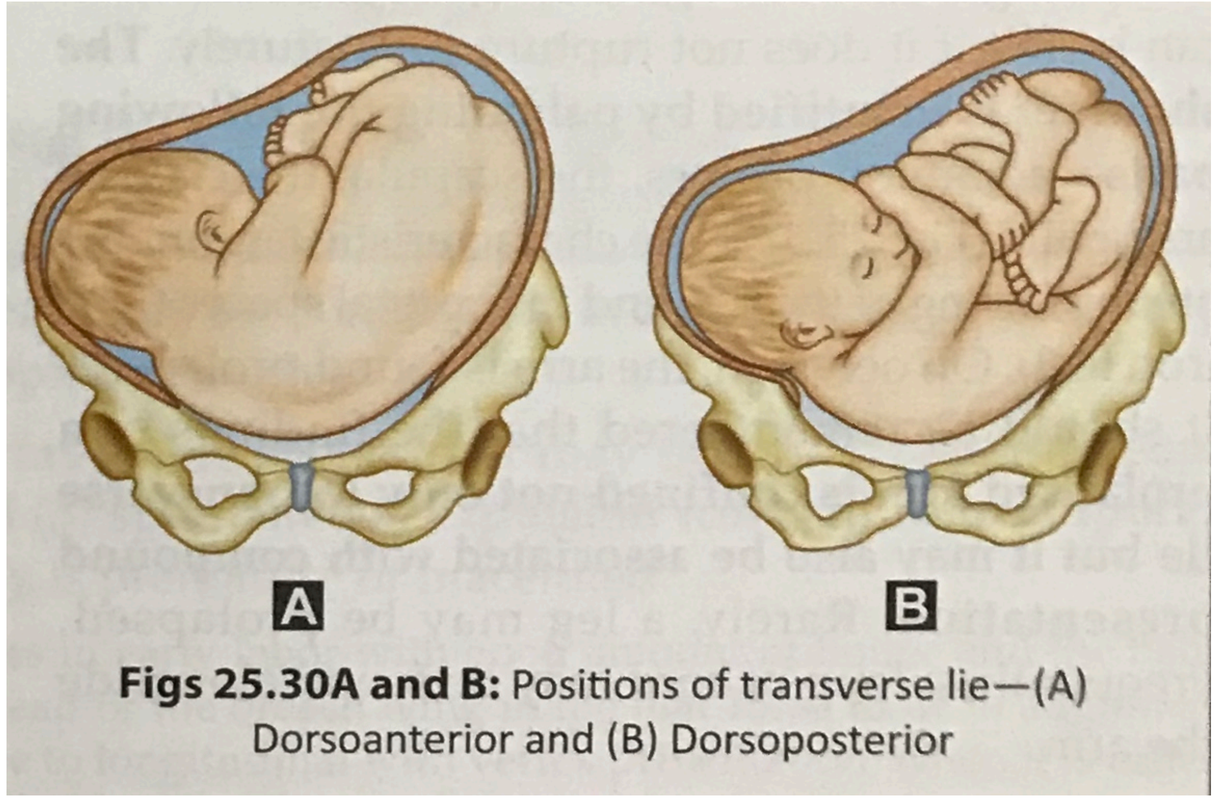
Vaginal examination

- Vaginal exam: the position is to confirmed on P/V exam by palpating supraorbital ridges & ant fontanelle. If the anterior fontanelle is on mother's left, with the sagittal suture in tr pelvic diameter, it is left front transverse position. In late labour, findings obscure due to caput formation.
- Machanism of labour: as engaging diameter is mentovertical (14 cm) so mechanism
- Management : caesarean section.



Transverse lie

- When the long axis of the foetus lies perpendicularly to the maternal spine or centralised uterine axis, it is called transverse lie. But more commonly, the foetal axis is placed oblique to the maternal spine & is then called oblique lie
- In either of the conditions, the shoulder usually presents over the cervical opening during labour & as such both are collectively called shoulder presentations



Figs 25.30A and B: Positions of transverse lie—(A) Dorsoanterior and (B) Dorsoposterior

Position

- There are four positions decide by the direction of the back, which is the denominator. The positions is obtained as follows:

✴(1) **Dorsoanterior** is the commonest (60%). The flexor surface of the foetus is better adapted to the convexity of the maternal spine.

✴(2) Dorsoposterior

✴(3) Dorsosuperior

✴(4) Dorsoinferior.

✴The last two are rare.

✴In does-posterior, chance of foetal extension is common with increase risk of arm prolapse.

✴According to the position of the head, the foetal position is termed right or left, the left one being more frequent or commoner than right.

Incidence

of transverse lie

- Incidence is about 1 in 200 births.
- It is common in premature & macerated foetues, 5 times more common in multiparae.
- Transverse lie in twin pregnancy is found in 40% of cases.

Etiology

The actual cause remain obscure

(a) Multiparty with lax & pendulous abdomen, imperfect uterine tone & extreme uterine obliquity are the responsible factors.

(b) Prematurity - centre of the gravity lies almost in the middle of the body.

(c) Twin pregnancy - is common for the second baby than the first one to be in transverse lie

(d) hydramnios.

(e) Contracted pelvis.

(f) Placenta Praevia

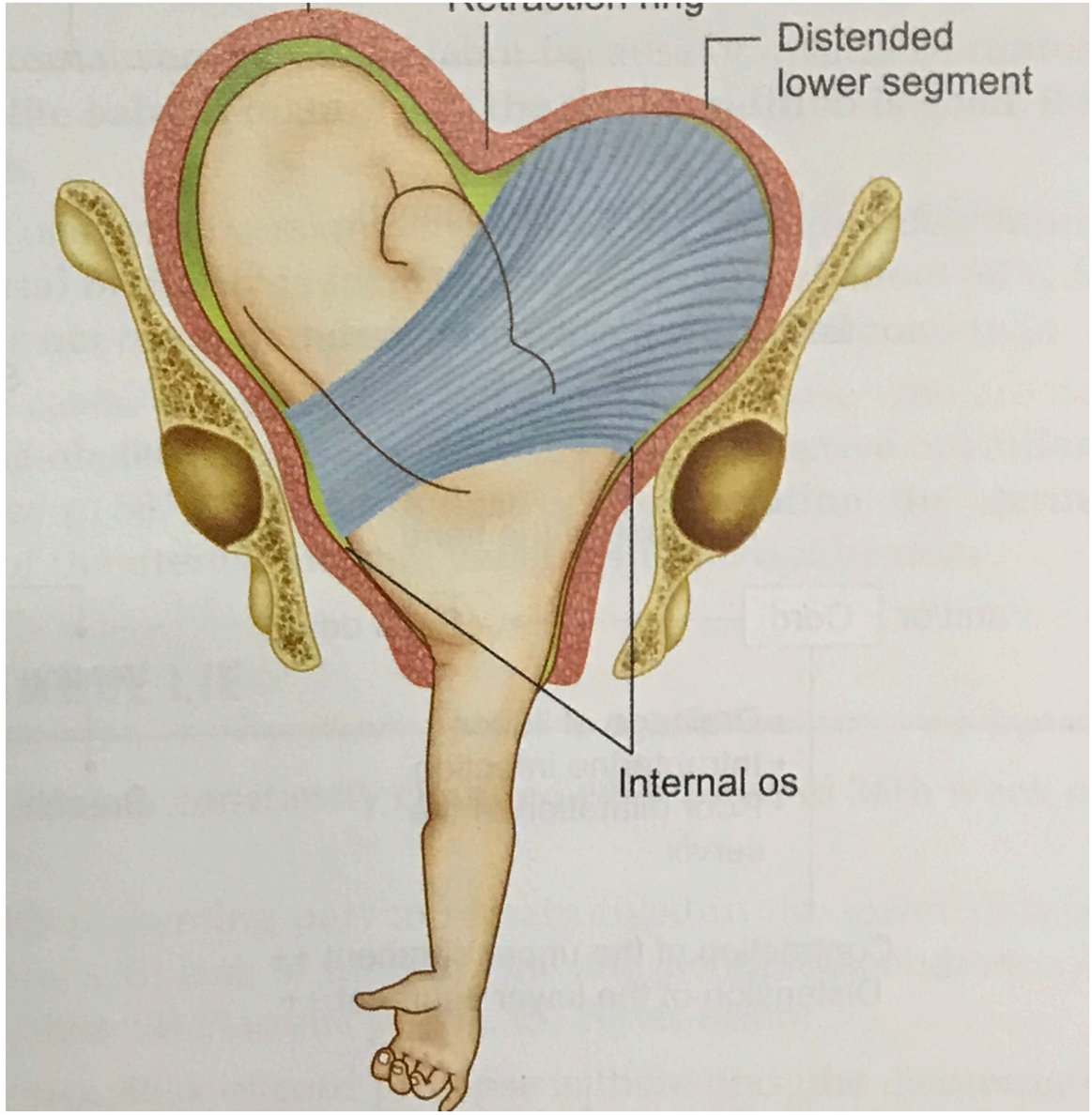
(g) Pelvic tumours.

(h) Congenital malformation of the uterus- arcuate or subseptate

(i) IUD-intrauterine death

Diagnosis

- Abdominal examination:
- Inspection: the uterus looks border & often asymmetrical, not maintaining the pyriform shape.
- Palpation: the fundal height is less than period of amenorrheoa.
- Fundal grip: foetal pole (breech or head) is not palpable
- Lateral grip: (a)soft, broad & irregular breech is felt to one side of the midline & smooth, hard & gobbler is felt on the other side. The head is usually placed at a lower level o one iliac fossa.



- (b) The back is felt anteriorly across the long axis in dorso-anterior or irregular small parts are felt anteriorly in dorso-posterior.
- Pelvic grip: the lower pole of the uterus is found empty. This, however, is evident only during pregnancy but during labour, it may be occupied by the shoulder.
- Auscultation: FHS is heard easily much below the umbilicus in dorso-anterior position. FHS is, however located at a higher level & often indistinct in dorsoposterior position.
- USG or radiography confirms the diagnosis.

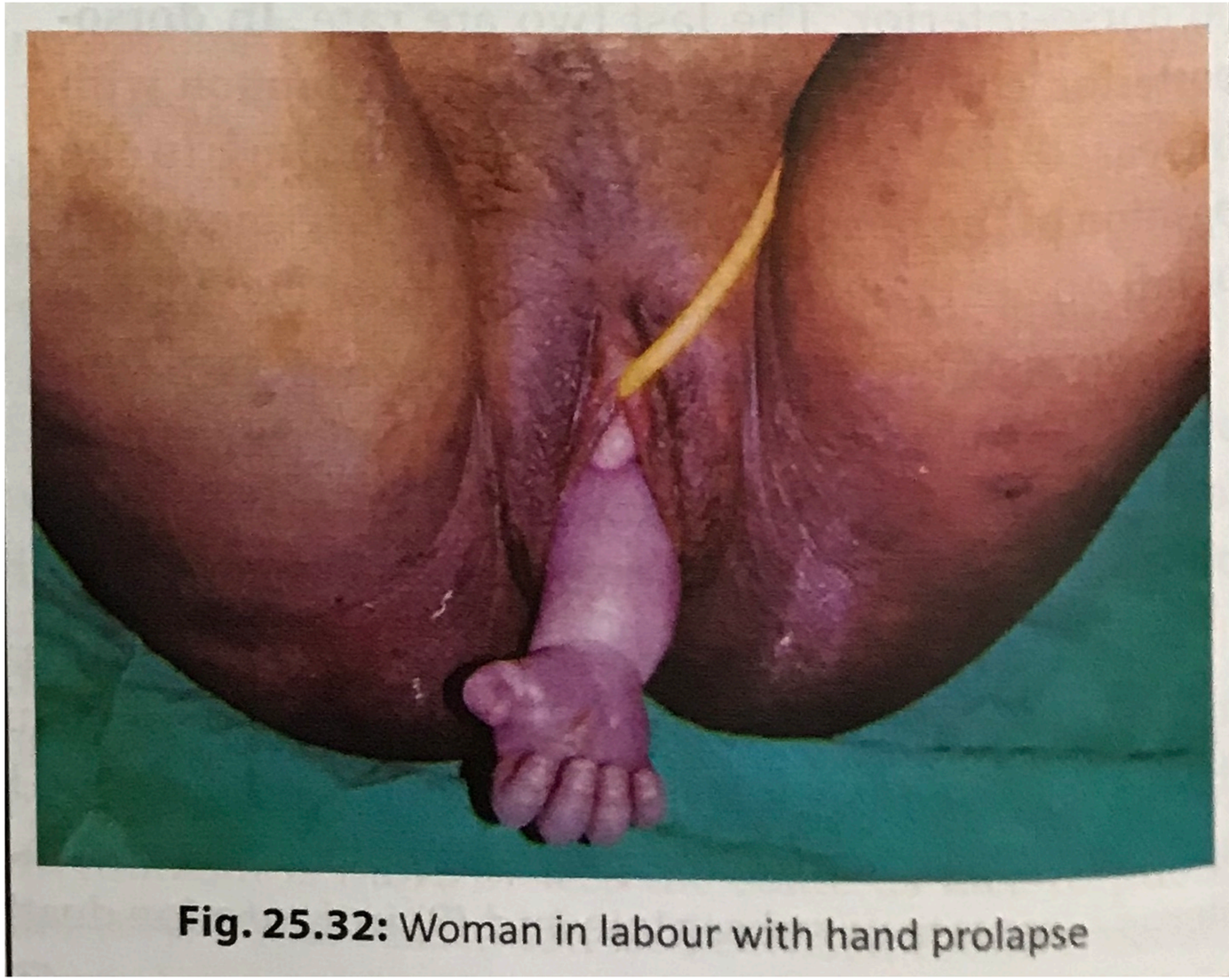


Fig. 25.32: Woman in labour with hand prolapse

Diagnosis

- Vaginal examination :
- During pregnancy, the presenting part is so high that it cannot be identified properly but one can feel some soft parts.
- During labour- elongated bag of the membranes can be felt if if does not rupture prematurely. The shoulder is identified by palpating the following parts- acromion process, the scapula, the clavicle & axilla. The characteristic landmarks are the feeling of the ribs & intercostal spaces (grid iron feel). On occasion, the arm is found prolapse.
- A prolapsed arm is confined not only tr lie but it may also be associated with compund presentation. Rarely leg may be prolapse.
- Frequently, a loop of cord may be found alongside the arm.

Determination of position

- The thumb of the prolapsed hand, when supinated, points toward the head, the palm corresponds to the ventral aspect. The angle of the scapula, if felt, indicates the position of the back. The side to which the prolapsed arm belongs, can be determined by shaking hands with the foetus. If the right hand is required for this, the prolapsed arm belongs to right side & vice-versa.

Clinical course of labour

There is no mechanism of labour in transverse lie

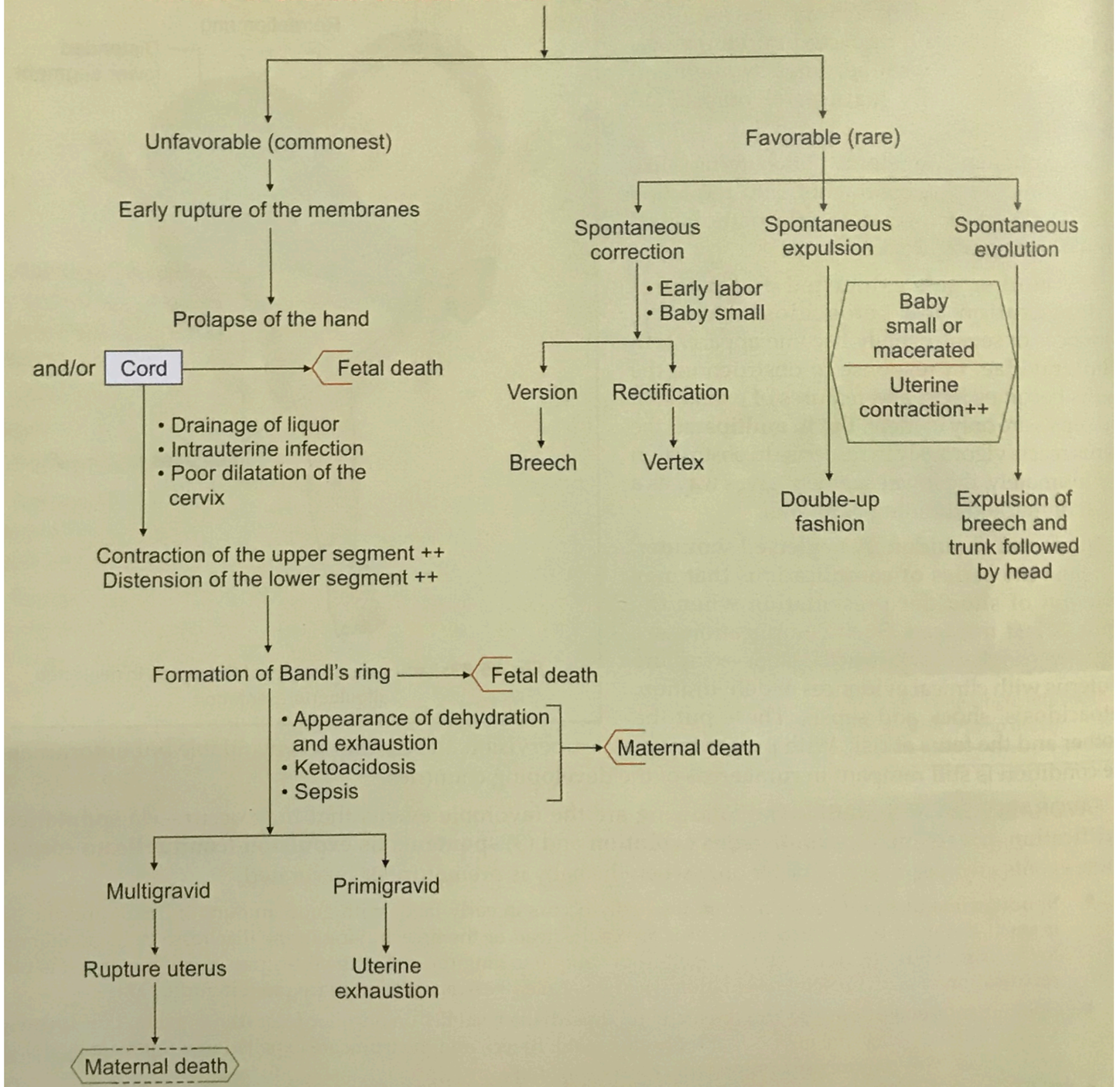
- If the lie remain uncorrected & labour is left uncared for, the following sequence of events may occur
- Unfavourable events (common); there may be PROM with escape of good amount of liquor because absence of ball valve action of presenting part. The hand of the corresponding shoulder may be prolapsed with or without cord prolapse.
- There is increase chance of ascending infection from lower genital tract. With the increasing ut contractions, the shoulder becomes swollen and cyanosed. Gradually features of obstructed labours supervene.
- In primi, in rispose to obstruction, the ut becomes inert & features of exhaustion & sepsis only but in multi, the uterus reacts vigorously & ultimately the lower segment gives way as a result of marked thinking of its wall i.e. rupture uterus
- In negated case -> complications are impacted shoulder-> obstructed labour-> rupture uterus with clinical evidences of dehydration, ketoacidosis, shock & sepsis. Mother & foetus both at risk.

Management of shoulder presentation

External cephalic version should be done in all cases beyond 35 weeks provided there is no contraindicated

- If version fails or contraindicated:
- The patient must be admitted at 37 weeks, because risk of early rupture membranes & cord prolapse.
- Elective caesarean section is preferred.
- Vaginal delivery may be allowed in a dead or congenitally malformed (small sized) foetus. The labour may be allowed to continued under supervision till full dilatation of cervix, when baby can delivered by internal podalic version & breech extraction.

Scheme of clinical course of labor in transverse lie left uncared for



Unstable lie

- This is a condition where the presentation of the foetus is constantly changed even beyond 36th week of pregnancy when it should have been stabilised.
- Causes: factors which prevent the presenting part to remain fixed in the lower pole of the uterus.

1. Grand multipara with lack of uterine tone & sedulous abdomen- commonest cause
2. Hydramnios
3. Contracted pelvis
4. Placenta Praevia
5. Pelvic tumour

Complications: cord prolapse is a possible risk& it is there once the membranes rupture. Perinatal death is high.

Management of unstable lie

- **Antenatal:** if there is no contraindication external cephalic version is to be done to correct the malpresentation.
- Hospitalisation: the pt is to be admitted at 37th week. PROM or earlyruptur of the membranes with cord prolapse is the real danger with lie remaining oblique. After admission, the investigation is directed to exclude pl Praevia, contracted pelvis or congenital malformation of the foetus with the help of USG for localisation of placenta.
- Formation of the line of tratment: elective CS in majority in the presence of PE, pl Praevia, contracted pelvis.
- stabilizing induction of labour: ECV if not contraindicated after 37 wk-> oxytocin infusion is started to initiate effective ut contractions. This is followed by low rupture of the membranes. Labour is monitored for successful vaginal delivery. This procedure may be done even after the spontaneous onset of labour.

Compound presentation

- When a cephalic presentation is complicated by the presence of a hand or a foot or both alongside the head or presence of one or both hands by the side of the breech, it is called compound presentation. The **commonest one being the head with hand** & the rarest one being the presence of head, hand 7 a foot.
- Incedence: is about 1 in 600.
- Etiology: prematurity is the commonest & condition preventing engagement like tr lie eg. Cont pelvis, pl praevia, pelvic tumour, multiple preg, macerated foetus.

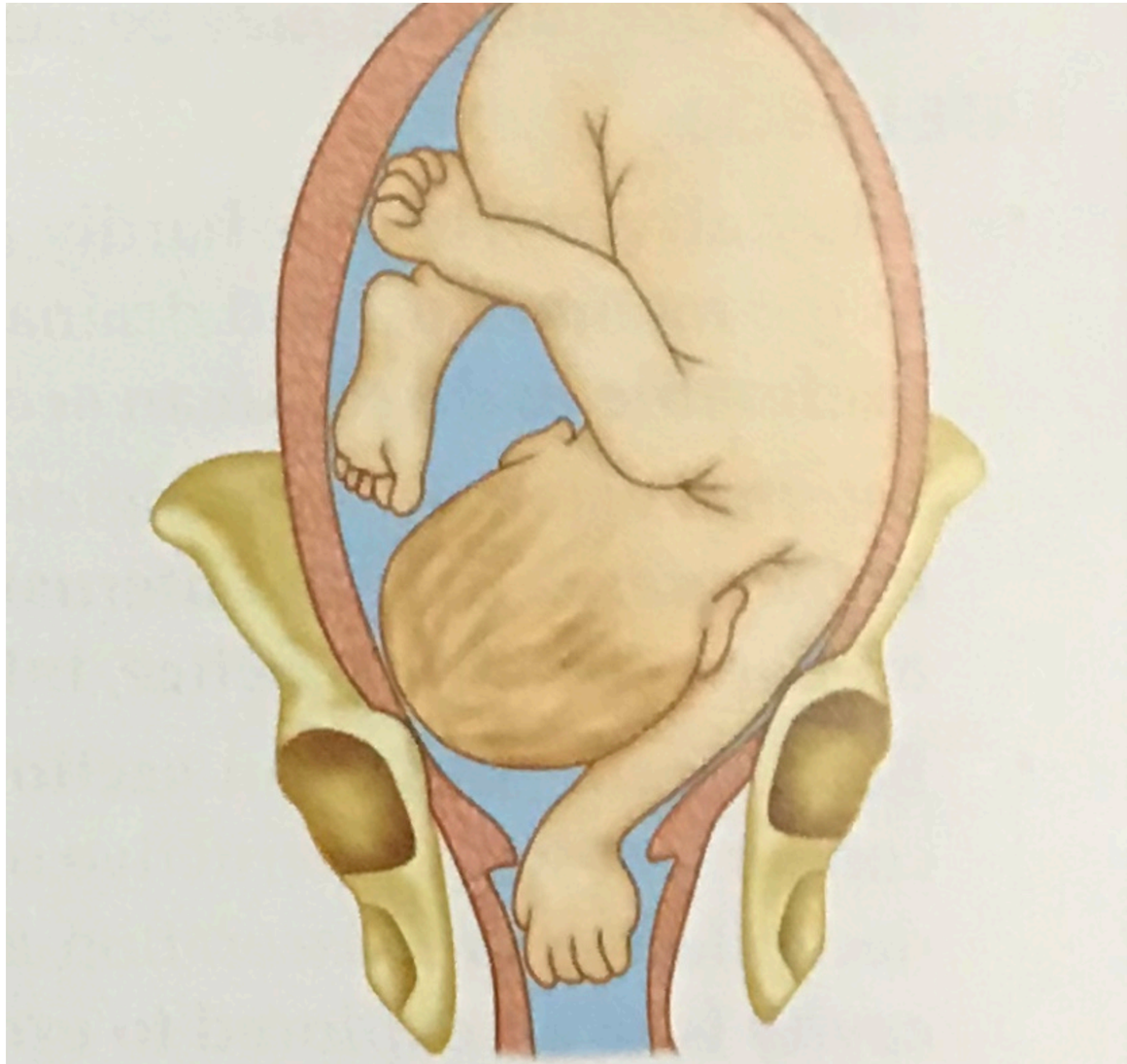


Fig. 25.34: Compound presentation—

- **Diagnosis:** when cervicalos is sufficiently dilated to feel the limv by the side of the presenting part, especially after PROM. Premature or early rupture of membranes occurs in about 1/3rd of the cases. Cord prolapse is to be excluded because of its frequent association- 10-15%.
- **Management:** factors to be considered are-(1) stage of labour, (2) maturity of the foetus, (3) singleton or twin, (4) pelvic adequacy, (5) associated cord prolapse. The foetal risk in compound presentation are birth trauma & cord prolapse.
- (A) Indication of CS - mature singleton foetus associated with contracted pelvis or cord prolapse with alive foetus.
- (B) Expected management - in vertex with hand & uncomplicated cases, an attitude to wait & watch. The labour process need to be monitored very carefully by CTG. elevation of prolapsed limb with descent of the presentation part usually takes place spontaneously.
- Temptation to replace the limbs early is not only unnecessary but carries increased maternal & fatal risks.

CORD PROLAPSE

There are three types of abnormal descent of the umbilical cord by the side of the presenting part. All these are placed under the heading cord prolapse.

- **Occult prolapse** - The cord is placed by the side of the presenting part and is not felt by the fingers on internal examination.
- **Cord presentation** - The cord is slipped down below the presenting part and is felt lying in the intact bag of membrane.
- **Cord prolapse -** The cord is lying inside the vagina or outside the vulva following rupture of the membranes.

Cord prolapse

- Very rare after premature rupture of membrane

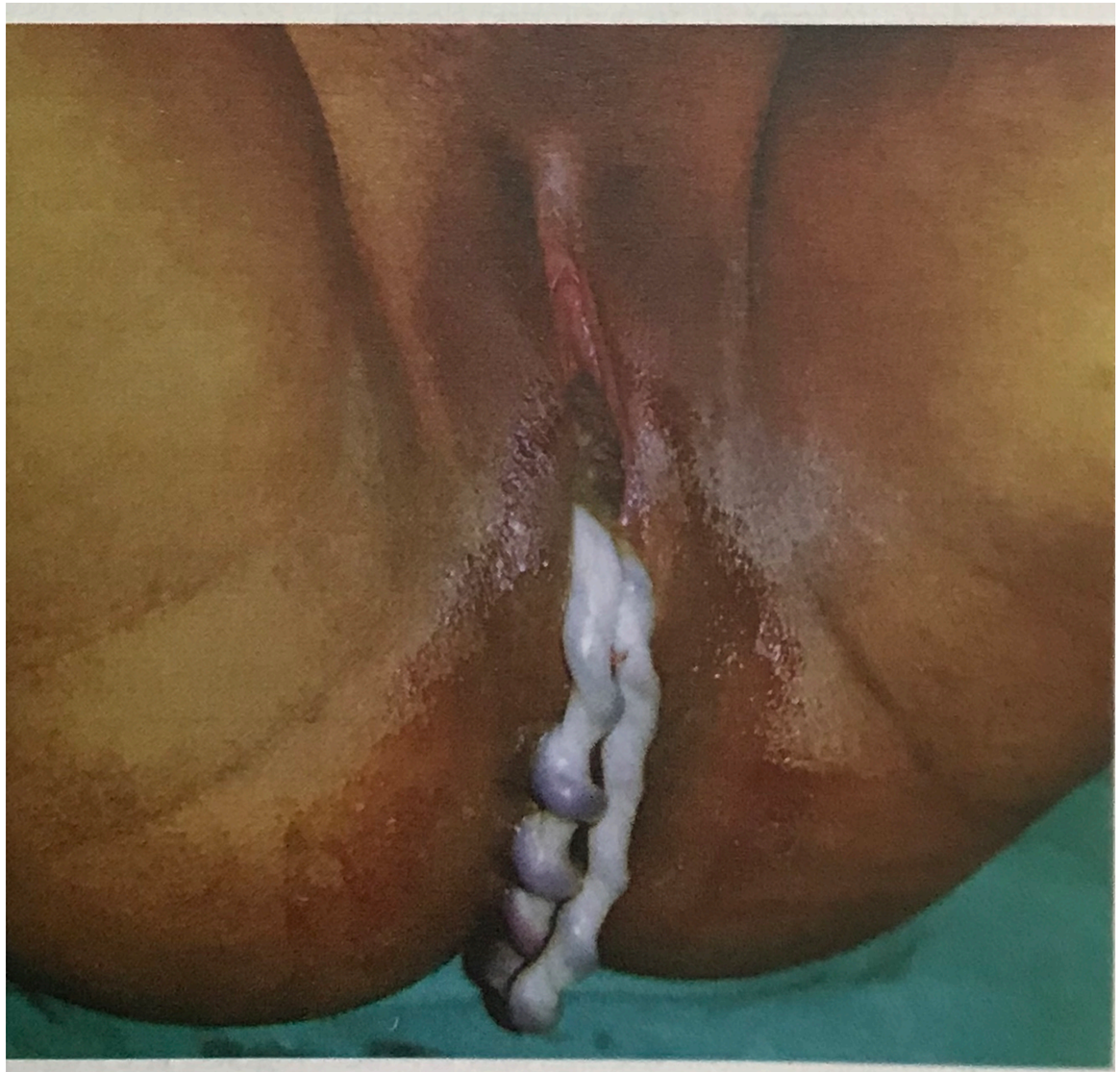


Fig. 25.35: Woman in labour wiht cord prolapse

Incidence

of cord prolapse

INCIDENCE: The incidence of cord prolapse is about 1 in 300 deliveries. It is mostly confined to parous women.

Incidence is reduced with the increased use of elective CS in noncephalic presentations.

ETIOLOGY: Anything which interferes with perfect adaptation of the presenting part to the lower uterine segment, disturbing the ball value action may favour cord prolapse. Too often, more than one factor operates.

The following are the associated factors:

1) Malpresentations - the commonest being transverse (5-10%) and breech (3%) especially with flexed legs or footling and compound (10%) presentation.

2) Contracted pelvis

3) prematurity

4) Twins

5) Hydramnios

6) Placental factor - minor degree placenta pravia with marginal insertion of the cord or long cord.

7) Iatrogenic - low rupture of the membranes, manual rotation of the head, ECV, IPV)P. 583, 585)

8) Stabilizing induction.

DIAGNOSIS:

- **Occult prolapse** - is difficult to diagnose. The possibility should be suspected if there is persistence of variable deceleration of fatal heart rate pattern *detected on continuous electronic metal monitoring.*
- **Cord presentation** - The diagnosis is made by feeling the prlsation of the lord through the intact membranes.
- **Cord prolapse** - The cord is palpated directly by the fingers and its pulsation can be felt if the foetus is alive. Cord pulsation may cease during uterine contraction which, however, returns after the contraction passes off. *Temptation to pull down the loop for visualisation or unnecessary handling is to be avoided to prevent vasospasm*. Fetus may be alive even in the absence of cord pulsation. Hence, prompt USG for cardiac movements or auscultation for FHS to be done before fatal death is declared.

PROGNOSIS:

- **Fetal** - *The fetus is at risk of anoxia* from the moment cord is prolapsed. The blood flow is occluded either due to mechanical compression by the presenting part or due to vasospasm of the umbilical vessels due to exposure to cold or irritation whin exposed outside the vulva or as a result of handling. *The hazards to the fetus is more in vertex presentation* especially when the cord is prolapsed through the anterior segment or the pelvis or when the cervix is partially dilated. The prognosis is , however, related with the interval between its detection and delivery or the baby and if the delivery is completed, within 10-30 minutes the fatal morality can be reduced to 5-10%. *The overall perinatal mortality is about 15-50%.*

- **Maternal** - The maternal risks are incidental due to emergency operative delivery, especially through the vaginal route. Operative delivery involves the risk delivery involves the risk of anaesthesia, blood loss and infection.

ANTICIPATION AND EARLY DETECTION:

1) *Internal examination* should be done whenever the membranes rupture prematurely or during labor in all cases of Malpresentation, twins, hydramnios or vertex presentation where the head is not engaged.

2) *Surgical induction* should preferably be conducted in the operation theatre keeping everything ready for cesarean section. The uterine contraction may be initiated by oxytocin, *if the head is not engaged prior to low rupture of the membranes. Internal examination both before and after amniotomy should be carried out with cord accident in mind.*

3) *One should exclude* cord presentation or occult prolapse, in unexplained foetal distress during labor.

Management

Cord presentation the aim is to preserve the membranes & to expedite the delivery

- Once the diagnosis is made, **no attempt** should be made **to replace** the cords, as it is not only ineffective but the membranes inevitably rupture leading to prolapse of the cord.
- If immediate vaginal delivery is not possible or contraindicated, caesarean section is the best method of delivery. (it is the only method of delivery after diagnosis is suspected)
- During the time of preparation, the patient is kept in exaggerated Sim's position to minimise cord compression

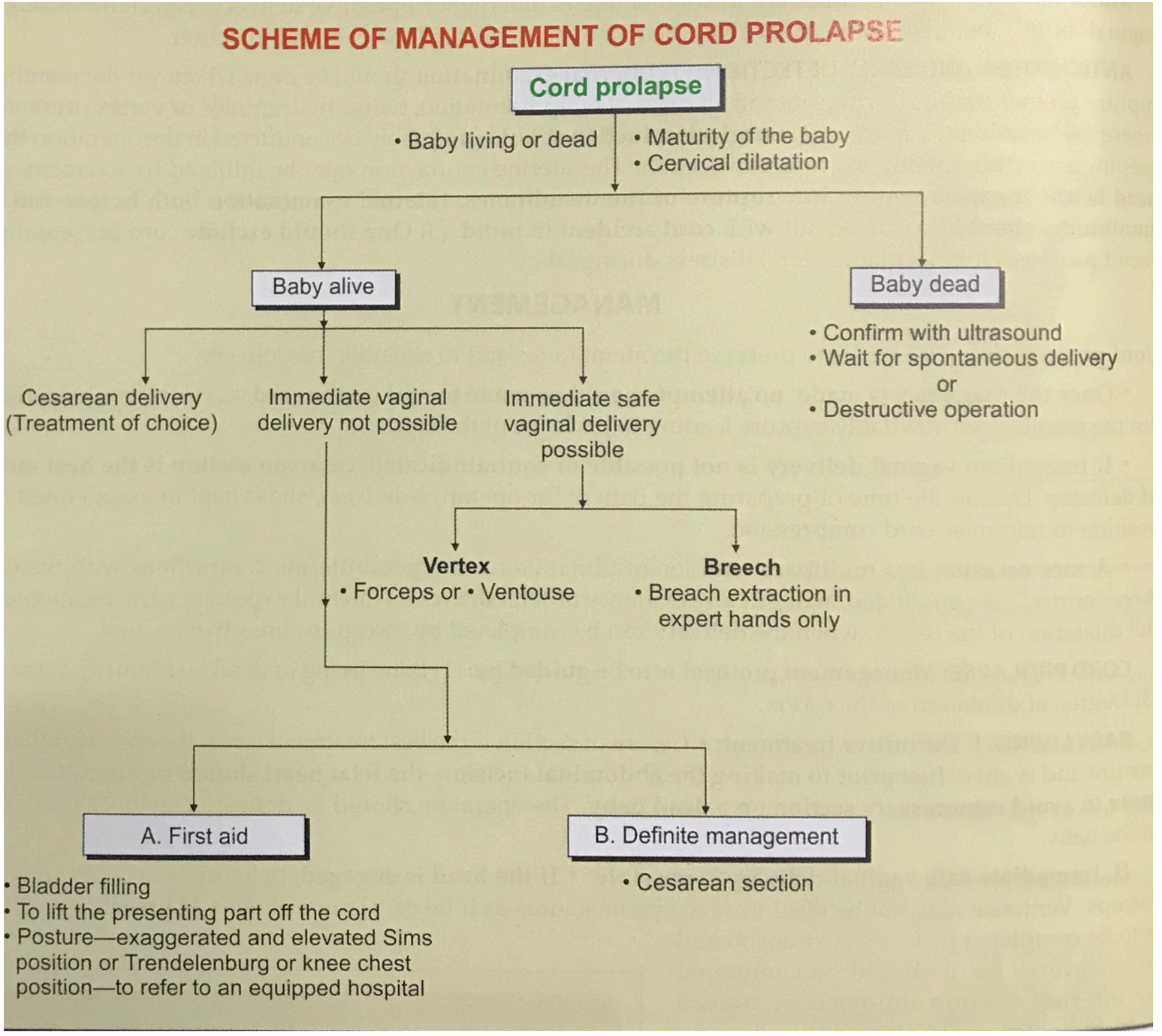
- Cord prolapse management protocol is to be guided by

(1) Baby living or dead

(2) Maturity of the baby

(3) Degree of dilatation of the cervix.

- Bladder filling has been done to raise the presenting part off the compressed cord till such time that patient has delivered (either by CS or vaginally). Bladder is filled with 400-750 ml of normal saline with a FOley's catheter, the balloon is inflated & the catheter is clamped. Bladder is before caesarean section.
- To lift the presenting part off the cord, by the gloved fingers introduced into vagina. The fingers should be placed inside the vagina till definitive treatment is instituted
- Postural treatment-exaggerated & elevated Sim's position with a pillow or wedge under hip or thigh to minimise cord compression; Trendelenburg or knee-chest position also tried.
- To replace the cord into the avagina ti minimise vasospasm our to irritation with air contact.


SCHEME OF MANAGEMENT OF CORD PROLAPSE
Cord prolapse
• Baby living or dead
• Maturity of the baby
• Cervical dilatation
Baby alive
Baby dead
• Confirm with ultrasound
• Wait for spontaneous delivery
or
• Destructive operation
Cesarean delivery
(Treatment of choice)
Immediate vaginal
delivery not possible
Immediate safe
vaginal delivery
possible
Vertex
• Forceps or • Ventouse
Breech
• Breach extraction in
expert hands only
A. First aid
B. Definite management
• Cesarean section
• Bladder filling
• To lift the presenting part off the cord
• Posture—exaggerated and elevated Sims
position or Trendelenburg or knee chest
position—to refer to an equipped hospital

CONTRAINDICATIONS OF ECV

- **Antepartum hemorrhage** (placenta previa or abruption)—risk of placental separation
- **Fetal causes**—hyperextension of the head, large fetus (> 3.5 kg), congenital abnormalities (major), dead fetus, fetal compromise (IUGR)
- **Multiple pregnancy**
- **Ruptured membranes**—with drainage of liquor
- **Known congenital malformation of the uterus**
- Abnormal cardiotocography
- **Contracted pelvis**
- **Previous cesarean delivery**—risk of scar rupture
- **Obstetric complications:** Severe pre-eclampsia, obesity, elderly primigravida, bad obstetric history (BOH)
- **Rhesus isoimmunization**

Breech with extended legs is not a contraindication for version