

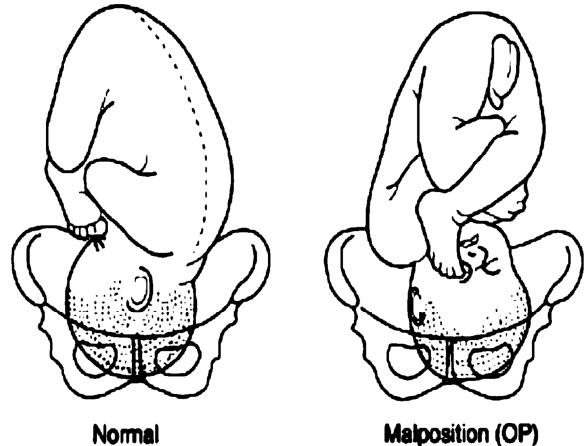
Malposition of the fetal head - Dr. Sallama

Occipito-posterior position of the fetal head:

- Mean the head enters the pelvis in one of the oblique diameters and the occiput is directed posteriorly.
- There are two positions:
 - Right occipito-posterior position ROP (the occiput directed to the right sacro-iliac joint).
 - Or left occipito-posterior position LOP (the occiput directed to the left sacro-iliac joint).
- The ROP is more common and will be described here.

Causes:

1. Android pelvis.
2. Anterior placenta.
3. Idiopathic



Mechanism of labor:

The mechanism of labor depends on whether the head is well flexed or incompletely flexed.

1) The well flexed head:

- If the head is well flexed,
- The occiput will be at lower level than the sinciput
- It will hit the pelvic floor first.
- Undergoing long anterior rotation through three-eighths of a circle to lie behind the symphysis pubis.
- The rest of the mechanism is the same as the right occipito-anterior position.

2) When the head is incompletely flexed:

- If the head is incompletely flexed the occipito-frontal diameter which measure 11.5 cm has to pass through the pelvis instead of the sub-occipito-bregmatic diameter which measure 9.5 cm.
- It is this that explains why some cases of occipito-posterior position have difficult and prolonged labor.
- With incomplete flexion the sinciput will meet the pelvic floor first and rotate anteriorly to lie behind the symphysis
- While the occiput rotate backward by one-eighth of the circle to lie in the hollow of the sacrum.
- The head may now be born with the face towards the posterior surface of the symphysis pubis (face to pubis).
- The root of the nose is pressed against the bone.
- The vertex is born by flexion and followed by the occiput.
- Then the head extends, so the face and chin emerging from under the pubic arch.
- The vulval orifice is stretched by the occipito-frontal instead of the sub-occipito-frontal diameter with a difference in size of 1.5 cm and a severe perineal tear may result.

3) Deep transverse arrest:

- In some cases the head becomes arrested with its long axis in the transverse diameter of the pelvis.
- The degree of extension being such, that neither the occiput nor the forehead is sufficiently in advance to influence rotation. This is called deep transverse arrest of the head.
- It result from either:
 - Incomplete forward rotation of occipito-posterior position.
 - The majority are the result of failure of the head which enter the pelvis in occipito-transverse position to rotate anteriorly.

Diagnosis:

During pregnancy:

- It can be a cause of non-engagement of the fetal head before the onset of labor (in primigravida).

During labor:

❖ Abdominal examination

1. There is flattening of the lower abdomen.
2. The limbs are easily felt anteriorly.
3. Difficulty in defining the back which felt far in the flank.
4. Difficulty to hear the fetal heart sound which is heard in one of the flanks.

❖ Vaginal examination:

- Early in labor:
 - Early rupture of membranes is common.
 - High presenting part.
- Established labor
 - The position can be determined from the direction of the anterior fontanelle, which can be easily felt behind the pubis
 - The degree of flexion of the head can be determined from the fontanelles also.
 1. If only the anterior fontanelle can be felt the head is poorly flexed.
 2. If both the anterior and posterior fontanelles can be felt the head is less poorly flexed.
 3. If only the posterior fontanelle felt the head is well flexed.
 - A well flexed head is more likely to rotate anteriorly.
 - In the second stage of labor:
 - Sometimes the position is not recognized until there is delay in the second stage of labor.
 - The diagnosis by vaginal examination may be difficult due to the formation of caput succedaneum over the presenting part.
 - In this case the fingers may be passed higher to feel the free margin of the ear which will point to the occiput.

The course of labor in occipito-posterior position:

- Prolongation of the 1st and 2nd stages of labor is common.
- Ineffective uterine contraction is common because the poorly flexed head fails to press down upon the cervix.
- In 70% of cases there will be spontaneous rotation of the occiput to the anterior position.
- In about 10% there the occiput undergoes short back ward rotation and delivered in direct occipito-posterior position (face-to-pubes).
- In the remainder assisted rotation will be required.

Management of the first stage of labor:

- The 1st stage is managed as in a normal case.
- Nothing can be done to correct the Malposition or to influence the rotation of the head at this stage.
- A partogram is done to monitor the :
 1. Uterine contraction (frequency, duration and strength).
 2. Fetal heart.
 3. Dilatation of the cervix.
- If progressive cervical dilatation does not occur augmentation with an oxytocin drip may be tried.
- If still no progress obtained in a few hours caesarian section (C/S) is performed.
- Also if there is fetal distress C/S is done..

Management of the 2nd stage of labor:

1. **In most cases (70%)** provided that the uterine contractions are strong and the woman is able to make good expulsive efforts the occiput rotates forward and normal delivery takes place.
2. **In other cases (10%)** the baby may be delivered face-to-pubes without difficulty but there is a great risk of a perineal tear.
3. **In about 20% of cases** there is failure of the presenting part to rotate and descend and such cases delivered by C/S or rotation can be enhanced by assistance.

The first step in assisting delivery is rotation of the fetal head

- This can be performed by:
 1. Manual rotation and forceps delivery.
 2. Kjelland's forceps.
 - These two procedures need an expert to perform them otherwise it may result in excessive fetal and maternal morbidity and complications.
 3. Vacuum extractor.

Manual rotation and forceps delivery:

- Should be done under pudendal block or general anesthesia.
- The head is rotated with the fingers to a direct anterior position.
- The shoulder girdle of the fetus should be rotated at the same time as the head by pressure through the abdominal wall by external hand.
- After rotation completed an obstetric forceps are applied to complete the delivery.

The use of Kjelland's forceps:

- This forceps is designed so that it can be used for rotation of the fetal head and then traction applied to complete the delivery (it needs an experienced obstetrician to perform the procedure).

The use of vacuum extraction:

- If the extractor is applied as near to the occipital end of the vertex as possible, and traction is applied, forward rotation of the head often occurs.
- Nowadays C/S is done in these conditions to reduce fetal and maternal complications

Deep transverse arrest:

- Means arrest of labor when the fetal head has descended to the level of the ischial spines and the sagittal suture lies in the transverse diameter of the pelvis.
- The occiput lies on one side of the pelvis and the sinciput on the other side and the head is badly flexed.
- It is only diagnosed during the 2nd stage of labor.
- If the head is firmly fixed in the transverse position obstructed labor will occur.

It is commonly caused by an android pelvis which has the following feature:

1. Anterior surface of the sacrum is straight.
 2. The ischial spines are prominent.
 3. The side walls are convergent.
- So the head will fail to descend to the pelvic floor, where rotation normally occurs.
 - The diagnosis usually made by vaginal examination during the 2nd stage where the head found to be arrested at the level of the ischial spine with the sagittal suture in the transverse diameter. both fontanelles are usually palpable

Management:

When the head is arrested in the transverse position the safest way to deliver the fetus is by performing C/S.