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President www.arabicobgyn.net4/16/2010

Cord Presentation and Prolapse

Definitions :

In both conditions a loop of the cord is below the presenting part. The difference is in the condition of the membranes; if intact it is cord presentation and if ruptured it is cord prolapse.

Incidence: 0.65 0f deliveries; 5-10% in cases of incomplete Breech.

Cord Length

The length of the umbilical cord varies from no cord (achordia) to 300 cm, with diameters up to 3 cm. Umbilical cords are helical in nature, with as many as 380 helices. An average umbilical cord is 55 cm long, with a diameter of 1-2 cm and 11 helices.[1] For unknown reasons, most cords coil to the left. About 5% of cords are shorter than 35 cm, and another 5% are longer than 80 cm.

The Risk:

As long as the membranes are intact there is no risk. In cord prolapse, the fetal perinatal mortality is 25-50% from asphyxia due to:
i) mechanical compression of the cord between the presenting part and bony pelvis and
ii) spasm of the cord vessels when exposed to cold or manipulations.
The prognosis is more worse when the cord is more liable for compression as in:
Primigravida than multipara.
Cephalic than breech presentation or transverse lie.
Partially than fully dilated cervix.
Generally contracted than flat pelvis.
Anterior than posterior position of the cord.

Etiology:

(I) The presenting part is not fitting in the lower uterine segment due to:
(A) Fetal causes:
1- Malpresentations : e.g. complete or footling breech, transverse and oblique lie.
2- Prematurity.
3- Anencephaly.

4- Polyhydramnios.
5- Multiple pregnancy.
(B) Maternal causes:
1- Contracted pelvis.
2- Pelvic tumours.

(II) Predisposing factors:

1- Placenta praevia.
2- Long cord.
3- Sudden rupture of membranes in polyhydramnios.

Diagnosis:

- It is diagnosed by vaginal examination .
If the cord is prolapsed it is necessary to detect whether it is pulsating i.e. living fetus or not i.e. dead fetus but this should be documented by auscultating the FHS.
During the course of labor, fetal bradycardia may indicate compression of a prolapsed cord, which should be ruled out with a vaginal examination.
- Ultrasound: occasionally can diagnose cord presentation. Loops of cord in front of the presenting part can be visualized using color Doppler studies

Management:

(A) Cord presentation:
Caesarean section: for contracted pelvis.
In other conditions the treatment depends upon the degree of cervical dilatation:

i) Partially dilated cervix : prevent rupture of membranes as long as possible by:
- putting the patient in trendlenberg position,
- avoiding high enema,
- avoiding repeated vaginal examination.
- When the cervix is fully dilated manage as mentioned later .
ii) Fully dilated cervix: the fetus should be delivered immediately by:

- Rupture of the membranes and forceps delivery : in engaged vertex presentation.

- Rupture of the membranes and breech extraction: in breech presentation.
- Rupture of the membranes + internal podalic version + breech extraction : may be tried in transverse lie otherwise,
- Caesarean section : is indicated as well as for non-engaged vertex and other cephalic malpresentations.

(B) Cord prolapse:
Management depends upon the foetal state:
i) Living foetus:

(I) Partially dilated cervix: Immediate caesarean section is indicated.
During preparing the theatre minimize the risk to the fetus by:
putting the patient in trendlenberg position,
manual displacement of the presenting part higher up,
if the cord protrudes from the vulva, handle it gently and wrap it in a warm moist pack.
giving oxygen to the mother.

(II) Fully dilated cervix: the fetus should be delivered immediately as in cord presentation.

ii) Dead foetus:

Spontaneous delivery is allowed.
Caesarean section : is the safest procedure in obstructed labor as destructive operations is out of modern obstetrics.