UNUSUALLY SHORT AND LONG CORDS

(With case reports)

by

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Unusually long and short cords are known for their complications. The optimum length of the cord for normal delivery to occur considering both high and low insertions of the placenta, must be 35 cm. and 20 cm. respectively. Undue length of the cord usually leads to problems like looping of it around the neck or trunk or to formation of knots. The looping of the cord around the neck or part of the foetus may lead to relative shortening of the cord and its attendant untoward effects. Intrapartum foetal asphyxia and death may result from looping round the neck, besides malpositions and malpresentations. Looping of the cord round a particular foetal part has been observed to interfere even with its development and its strangulation.

The short cords, on the other hand, may produce many baneful effects, and even dystocia or difficult labour may rarely be encountered. This condition is not easily recognised until difficulty is experienced in extracting the head or shoulder in case of cephalic presentation, and the trunk in case of breech presentation.

The authors encountered dystocia is one case where difficult labour was attributable to unusually short cord, while in another case the cord was unusually long, measuring 165 cm. and with three loops around the neck but fortunately, without any complications.

Case 1

A primipara, aged 25 years, was admitted on 24-11-69 at 10 P.M. in labour for 4 hours. There was nothing significant in her past history, family history and personal history.

On examination, her general condition was good, B.P. 126/80 mm. Hg., pulse 100/min., respiration 20/min., temperature 98.5°F. Cardiovascular and respiratory systems were normal. The height of the uterus corresponded to the period of 40 weeks' amenorrhoea with the back of the foetus on the left side. Head was engaged and foetal heart sounds were heard in the left flank, slightly away from the spino-umbilical line.

On vaginal examination, the os was 2 cm. dilated, cervix partly taken up, with membranes intact. Head was above the level of the ischial spines, and the pelvis was adequate. The patient was progressing

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Received for publication on 24-1-1970.

well with labour pains coming every 5-10 minutes, each lasting for about 30 seconds. Membranes ruptured at 8 A.M. on 25-11-69 and vaginal examination at the time revealed a fully dilated os. Cervix was fully taken up. Head above the level of ischial spines and occiput in left transverse position. Foetal heart sounds 148/min. By 10.30 A.M. the uterine contractions were found to be sluggish in nature and foetal heart sound 144/min. Intravenous infusion of 5% dextrose saline was started at 11.30 A.M. and the uterine contractions were again vigorous. At this stage vaginal examination showed the head in the L.O.T. position and above the ischial spines with cervix fully dilated and completely taken up. The vacuum extractor was applied at this stage at 11.45 A.M. with 0.8 kg. pressure/Sq. cm. giving a time interval of 12 minutes for the chignon to develop and it took 8 minutes to deliver the head. The three loops of cord which were loosely wound round the neck were discovered and were carefully slipped away. No difficulty arose in delivering the shoulders, trunk or limbs. The placenta delivered normally and the episiotomy wound was repaired in layers. Puerperium was uneventful.

Weight of the child was 2 Kg. 750 gm. Height of the child 18″. Weight of the placenta 430 gms., length of the cord was 165 cms., Apgar score of the baby was 9. Suction of the baby was done and it showed no signs of distress. The patient was discharged on the 16th day of the puerperium.

Case 2

A primipara aged 25 years, married for 1½ years was admitted at Darbhanga Medical College Hospital for Women on 2-12-69 at 12 O'clock in the night with a history of (1) amenorrhoea of 40 weeks duration, (2) labour pain for 2 hours. There was nothing significant in the past history, family history or personal history. On examination her general condition was good. Haemoglobin 10 gms. %; urine showed no abnormality; cardiovascular and respiratory systems were normal.

The height of the uterus was corresponding with the period of amenorrhoea. Head was engaged and foetal heart sounds were heard on left spino-umbilical line.

On vaginal examination the os admitted the tip of little finger, cervix partly taken up. Head was in the cavity and membranes were intact, pelvis was adequate. The patient was progressing well with labour pain. At 2 A.M. on 3-12-69 membranes ruptured and vaginal examination revealed cervix three fingers loose, almost taken up, membranes were not felt, head at the level of ischial spines. The occiput was in left transverse position. Foetal heart sounds were 148 per minute. The patient continued to have normal contractions every 5-10 minutes and lasting for 30 seconds. At 6 A.M. on 3-12-69 the patient was found to be exhausted and 1 pint of 5% glucose saline drip was set up. On vaginal examination at this time the cervix was fully dilated, fully taken up and head below the level of ischial spines. There was a small caput with occiput anterior. At 8.30 A.M. on the same day no further progress of presenting part was found. It was decided to deliver by vacuum extractor.

With pudendal block anaesthesia by 1% Novocaine infiltration the ventouse was applied at 8.45 A.M. A pressure of 0.6 Kg/Sq. cm. area was produced with the 40 mm. cup. Requisite pressure was achieved within 10 minutes. Traction was given at right angles to the cup. When the head was at the vulva, a right mediolateral episiotomy was made. There was no difficulty in delivering the head, but after release of pressure the shoulders did not follow and several attempts to rotate the shoulders failed. Keeping in mind the possibility of occult dystocia, a manual examination up to the thorax revealed a tense cord which was taut and dragging upon it. With great difficulty it was clamped and divided. The child was delivered quickly. The foetal end of the cord was clamped. The placenta delivered normally, the episiotomy wound was sutured. The puerperium was uneventful. Weight of the child was 3 Kg. 200 gms., weight of the placenta was 468 gms. length of the cord was 6″, height of the child 19″, Apgar score of the baby was 8, colour of the baby's body was pink but

the extremities were blue, Baby responded to suction and oxygen therapy. The patient was discharged on 6th day of confinement.

Discussion

There are only a few cases on record in the literature with a long umbilical cord. Eastman and Hellman (1961) recorded a case with a cord length of 198 cm. Javert and Barton (1952) record a case of 181 cm long umbilical cord. Brows (1963) recorded a cord 150 cm. long, Malapas (1964) found a cord of 129 cm. and Rohatgi and Garg (1969) recorded a length of 108 cm.

According to Javert (1957) a long cord is one which is three times the standing height of the foetus. In the case reported (case no. 1) the cord was as long as 165 cm. and with three loops around the neck. According to Eastman and Hellman (1961), the incidence of one loop around the neck is 20.6 per cent, of two loops 2.5 per cent and of three loops only 0.2 per cent. The common belief that the cord around the neck is a cause of foetal death, however, is disregarded by these authors and this point has also been substantiated by our case. The longer the cord, the greater is the likelihood of coiling and when there are as many as three loops, the cord has been found to be usually in excess of 70 cm. in length.

Unusually short cords, like one reported, have been recorded by other workers. A case was described by Braxton Hicks, where in a twin pregnancy, shortness of both the cords was very marked. The funis of the second child was only 4″ long. Bayer described a case in which the cord measured only 4.2″. Munro Kerr (quoted by Moir, 1964) described a case where cord was 8″ long. The shortest reported length of ½″ (1.5 cm.) however, is the all time record. According to Javert (1957), a short cord is one which is less than one-third of the standing height of the foetus.

In the case reported by the authors, the cord measured 6″ only, and dystocia was due to actual shortness of the cord. The diagnosis was only possible when shoulders could not be delivered and a taut, tensible short cord was palpated on vaginal examination.

Summary

Problems with unusually long and short cords have been discussed. One case with unusually long cord, measuring 165 cm. and with three loops around the neck, but without symptoms; and the other, with unusually short cord measuring only 6″ with dystocia have been reported.

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