VELAMENTOUS INSERTION OF UMBILICAL CORD WITH RUPTURE OF CORD

(A Case Report)

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Velamentous insertion of the cord is not an uncommon finding, ranging from an estimated 1% in normal uncomplicated gestation to perhaps 10% or more in multiple pregnancies, and is mainly of interest because of the possibilty of rupture of the intramembranous portion of the umbilical vessels during labour with resulting stillbirth. It is frequently accompanied by abnormalities of placental formation or location or by marked placental infarction.

The case reported below, which occurred at Nowrosjee Wadia Maternity Hospital, had a velamentous insertion of the cord with rupture of the associated short cord. The case is reported for its rarity.

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Case Report

A patient, aged 28 years, was admitted on 19th April 1967, at 11-00 a.m. with a history of 9 months' amenorrhoea with labour pains. The patient had visited the antenatal clinic twice for routine check up. She had been married for 12 years. She had three full-term normal deliveries. All babies are living. The last delivery was 5 years ago.

On admission the uterine contractions were mild and there was slight bleeding amounting to about 2 ounces, which was considered to be an extra show.

On examination nothing abnormal was detected and there were no signs of accidental haemorrhage. Within one and a half hour of admission, membranes ruptured spontaneously. The liquor was clear, neither blood stained nor meconium stained. There was no foetal distress and foetal heart sounds were regular and of good intensity.

She delivered normally within 40 minutes after rupture of membranes. The baby came out with the whole cord which had got separated from the placental end. There was no bleeding from the cut end of the cord and the cord was clamped im-

mediately. Yet baby cried immediately after birth and all reflexes were normal. The total length of cord was 12½ inches. Vaginal examination was done to find out the other end of the cord in the vagina but it was not felt and as the membranes were coming out of the vagina, they were caught hold of by artery forceps. The placenta was then delivered without any difficulty in 10 minutes.

On examination of the placenta, membranes were complete. The attachment of the cord was in the membrane 2 cms. away from the margin of the placenta with two blood vessels running from the margin of the placenta to the site of the membranous cord. This is clearly demonstrated in the photograph. The weight of the placenta was 450 gms. and measured 6½ inches in diameter. There were no major infarcts in the placenta nor retroplacental clots. Third stage of labour was uneventful.

The female baby weighing 2,550 gms. was looking very pale, but regained her colour after half an hour. Haemoglobin was checked after 72 hours and it was 90%. There were no complications in mother and baby. Both were discharged in good condition on the fourth day.

Comments and Review of the literature

In this case, the cord must have ruptured at the time of birth as the baby was not asphyxiated and cried immediately. If it had ruptured earlier, the baby would have been deeply asphyxiated or may even have been stillborn. This confirmed that 2 ounces of blood loss at the time of admission must have been an extra show.

The cause of rupture of the cord must be its shortness with a normally situated placenta and membranous attachment, which must have torn off at the time of the descent of the head. Three such cases have been reported in the literature available, and one of the cases bears the following detail.

Twenty-four year old primipara came with labour pains. Cervix was dilated to 2 cms. Head was engaged. Foetal heart sounds were regular and normal; there was hydramnios. Uterine contractions were regular at 3 to 4 minutes. Membranes ruptured half an hour later and an enormous amount of blood-tinged fluid discharged, no signs of placenta praevia or abruptio placentae, nor any change in maternal condition. Foetal heart sounds were normal throughout I and II stage of labour. Second stage was cut short by vacuum extractor. The infant cried immediately and breathed but was very pale. Because haemoglobin was 8.7 gms. per cent, 90 ml. of blood was given. Examination of placenta revealed an abnormally short cord (24 cms.) with battledore insertion of the placenta. Closer inspection showed a rent in the wall of one umbilical vein, which accounted for the bleeding.

The aetiology of velamentous insertion of the cord has been postulated to be either :

(1) Oblique implantation
(2) Deep implantation
(3) Unequal expansion of the amniotic sac.

The most important predisposing factor in rupture of the cord, be it partial or complete, is velamentous insertion of the cord, almost always associated with vasa praevia. Though the velamentous insertion of the cord has a noted incidence of 0.5 to 1%, rupture of the cord occurs only once in 5505 deliveries as observed by Bahary, Gabbai and Eclerling.

Painless vaginal bleeding in association with increasing foetal distress and delivery of an extremely pale and flaccid, shocked infant, should immediately arouse the suspicion of cord rupture and accordingly prompt therapeutic measures should be taken to salvage the severely exsanguinated infant.

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