CASE REPORT

Case Report: Clinical outcome of prolonged cord prolapse

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Abstract

Abstract:
Umbilical cord prolapse is an uncommon obstetric emergency with high neonatal morbidity and mortality. It is a rare entity with incidence ranging from 0.1 to 0.6%. Timely recognition and immediate interventions are needed for better outcome. Here, we present a case of 28-year-old multigravida of term pregnancy with cord prolapse of seven hours following rupture of membrane. She was experiencing vaginal leakage in the absence of abdominal pain, and was referred from the peripheral health center with the provisional diagnosis of cord prolapse. She finally underwent emergency caesarean section with good neonatal outcome at tertiary care center.

Keywords
umbilical cord; prolapse; obstetric; neonatal
Introduction
Umbilical cord prolapse (UCP) is the abnormal descent of the umbilical cord through the cervix or past the presenting part in the presence of ruptured membrane. The overall incidence of UCP ranges from 0.1-0.6 %.1 It is an infrequent and unpredictable obstetric emergency.2 It occurs more commonly in pregnancies with amniotic membrane rupture before labour.3 Delay of management is responsible for poor perinatal outcome.2 Therefore, timely recognition and intervention is needed to avoid neonatal morbidity and mortality.4 The cord prolapse to delivery time and delay in transfer to hospital are associated with unfavourable neonatal outcome.5

Here, we present a case of 28-year multigravida of term pregnancy with cord prolapse of seven hours following rupture of membrane, who underwent an emergency caesarean section with good neonatal outcome. She was a referred case from a peripheral rural health centre.

Case report
A 28-year old Nepalese female, Hindu by religion and housewife with gravida four, parity one and living one at 38 weeks 6 days of gestation, a referred case from district level hospital, presented to our tertiary care centre with a diagnosis of premature rupture of membrane of 15 hours and cord prolapse of seven hours. She was well 15 hours before when she experienced vaginal leaking, not associated with pain in the abdomen. There was no history of fever or foul-smelling vaginal discharge. Her past four deliveries were uneventful.

On physical examination by the attending obstetrician, her uterus was of term size with longitudinal lie, cephalic presentation and the fetal head was free. There was no uterine contraction. The fetal heart rate as heard by fetal doppler was 150 beats per minute and was regular. On speculum examination, a glistening white structure was seen lying in the vagina as shown in Figure 1. Thus, the diagnosis of cord prolapse was confirmed. Complete blood count, C-reactive protein, urine routine/microscopic examination and high vaginal swab analyses were conducted.

On vaginal examination, the umbilical cord hanging by the side of the presenting part was wrapped with a gauze soaked with warm saline. One of the assistants wearing sterile glove placed a hand inside the patient’s vagina and lifted the presenting part. At the same time, the assistant palpated the cord and confirmed its presence by feeling pulsation of umbilical arteries. Then, Foley’s catheterization was done and approximately 200 ml of distilled water was infused into the urinary bladder. The patient was immediately taken to the operation theatre on trolley in exaggerated Sims position. Emergency caesarean section was then done. Intra-operative findings were that the placenta had already separated with retroplacental clots of 100 ml. Baby was cephalic, left occipito-anterior and placenta was in fundo-anterior position.

The outcome of caesarean section was a single alive male baby with birth weight of 3300 grams, cried immediately after delivery with Apgar score of 6/10 and 8/10 at one and five minutes respectively. The weight of placenta was 550 grams.

On second and third day postpartum, the patient had a few episodes of fever of maximum 102° F for which fever panel was sent and all came out to be within normal limits. She was kept under intravenous antibiotics for 48 hours (intravenous ceftriaxone 1 g 12 hourly and intravenous metronidazole 500 mg 8 hourly). C-reactive protein of baby was also sent for testing and came out to be negative. Patient was discharged on fifth day post-operative with afebrile period of > 24 hours and was followed up on seventh day for suture removal. Both mother and baby were fine.

Figure 1. Umbilical cord prolapse seen on speculum examination.
Discussion
UCP is a rare occurrence, and very little literature has reported on long duration of UCP. Incidence of cord prolapse ranges from one to six per 1000 pregnancies, and it is associated with high perinatal mortality, ranging from 23% to 27% in low-income countries and 6% to 10% in high-income countries. Risk factors for UCP include fetal malpresentation, fetal prematurity, multifetal gestation, polyhydramnios and spontaneous rupture of membrane. In our case, the associated risk factor was spontaneous rupture of membrane when the head was not engaged.

In a study by Lin MG et al., perinatal mortality was found to be significantly greater when prolapse occurred outside the hospital (38-40%) compared to within hospital (0-3%). Due to neonatal morbidity and mortality associated with UCP, rapid and decisive management is required. The guiding principle was to deliver the fetus as soon as possible. Cesarean section is the recommended mode of delivery.

In a study by Li PC et al., they delivered a baby vaginally after 30 minutes of UCP, whereas in our case, we did a caesarean section. It is reported that the outcome of umbilical cord prolapse is good, if the baby is delivered within a half hour of diagnosis. However, in our case even after seven hours of cord prolapse, the neonatal outcome was good.

In a study by Murphy DJ et al., the authors concluded that Apgar scores were better with a shorter DDI (diagnosis of UCP to delivery interval) and babies delivered vaginally generally had shorter DDIs and better Apgar scores than those delivered through caesarean section. However, in our case, even though DDI was longer and the patient underwent a caesarean section, the baby was delivered with a good Apgar score.

One limitation of our study was that we lost to follow up the case on a long-term basis. In this case, we learned that the situation was very urgent and required immediate management. After the rupture of membrane, it is mandatory to do per vaginal examination to rule out cord prolapse. These types of cases need to be urgently referred from peripheral health centres to well-equipped hospitals early so that timely definitive management can be done.

Conclusions
The umbilical cord prolapse should be ruled out in a term pregnant woman presenting with ruptured membrane or persistent per vaginal discharge. These cases need to be recognized and managed as early as possible. They should be urgently referred to a well-equipped centre, where caesarean delivery service is available.

Data availability
All data underlying the results are available as part of the article and no additional source data are required.

Consent
Written informed consent for publication of the clinical details and clinical image has been obtained from the patient.

References
1. Umbilical Cord Prolapse (Green-top Guideline No. 50); [cited 2021 Dec 5]. Reference Source
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