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Research Article

INCIDENCE, RISK FACTORS AND FETAL OUTCOMES IN PATIENTS WITH UMBILICAL CORD PROLAPSE AT BPKIHS: A RETROSPECTIVE STUDY

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BACKGROUND

The umbilical cord connects the baby from its umbilicus (tummy button) to the placenta inside the womb (uterus). The cord contains blood vessels that carry blood, rich in oxygen and nutrients, to the baby and take waste products away. After the baby is born, the cord is clamped and cut before the placenta is delivered.

An umbilical cord prolapse happens when the umbilical cord slips down in front of the baby after the waters have broken. The cord can then come through the open cervix. It usually happens during labour but can occur when the waters break before labour starts.

The overall incidence of cord prolapse ranges from 0.1–0.6%. In the case of breech presentation, the incidence is higher at 1%.Cases of cord prolapse consistently feature in perinatal mortality enquiries. One large study found a perinatal mortality rate of 91 per 1000.However, much of this risk is due to congenital anomalies or prematurity. It is considered as an obstetric emergency.(1)

There are several risk factors like prelabour rupture of membrane , malpresentation, prematurity, multiple pregnancy, polyhydramnios , low birth weight are common risk factors.

UCP still carries a high perinatal mortality and morbidity, due to either a mechanical occlusion resulting from prolonged compression of the umbilical cord under the fetal presenting part, or an umbilical cord vasospasm triggered by the comparatively cooler temperature in the vagina. Both may lead to perinatal hypoxic encephalopathy or death

Abbreviations:

UCP: Umbilical cord Prolapse

NICU: Neonatal Intensive Care Unit

METHODOLOGY

It's a restrospective descriptive study. Patient admitted in obstetrics ward or presenting in obstetrics emergency and requiring emergency delivery for cord prolapse were included in the study. Inclusion Criteria included Patients with gestational age >28 weeks and with live fetus and Patients requiring emergency delivery for umbilical cord prolapse

Exclusion Criteria included Pregnancy <28 weeks of gestation and Patient with Umbilical cord prolapse with fetal demise

Ethical clearance was obtained by the institutional review committee. Data were processed and analyzed using Statistical Package for Social Science (SPSS) version-16. The level of significance was set at 0.05 and p value <0.05 was considered significant. The test statistics used to analyze the data were descriptive statistics, chai square test.

RESULTS

The Aim of the study was to find out the incidence, risk factors and fetal outcome in patients with umbilical cord prolapse

General Objectives**:** To find out the incidence of umbilical prolapse and its associated risk factors and fetal outcomes

Specific Objectives:

1. To find out the incidence in patients with umbilical cord prolapse
2. To evaluate the risk factors in patients with umbilical cord prolapse
3. To see the fetal outcome in patients with umbilical cord prolapse

Total 30 cases of umbilical cord prolapse were chosen for this study. The majority of deliveries were carried out via normal vaginal delivery (59.35%), while caesarian sections (40.65%) were shown to be less common than normal vaginal delivery over three years (Table 1).

Types of delivery	Frequency	Percentage
Caesarian section	10,419	40.65%
Normal vaginal delivery:	15208	59.35%
Total	25627	100%

Table 1: Mode of delivery (N=25627)

A total of 25627 deliveries were conducted during the study period and 30 of which were complicated by cord prolapse at various cervical dilatations, thus giving an incidence of 1.17/1000 deliveries.

Figure 1 showed that out of 30 cases live birth was found as 90% whereas still birth were found 10% over these three years.

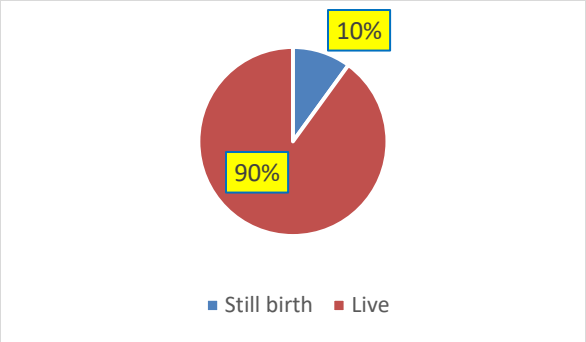

Figure 1

In our study, out of 27 live infants, AS>7 (74.07%) was discovered among 20 infants, while AS<7 (25.92%) was discovered among 7 infants (Figure 2).

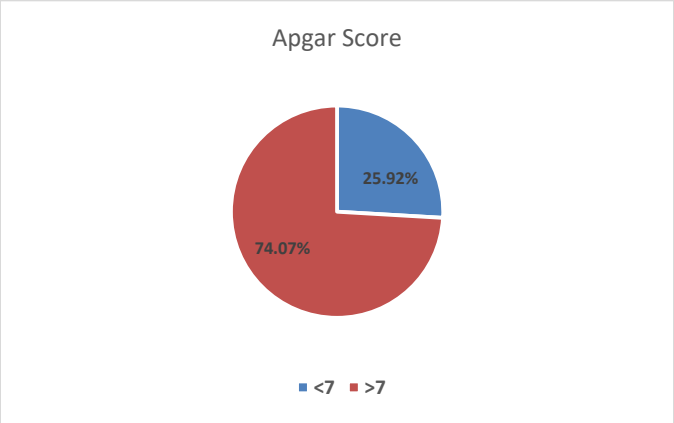

Figure 2

On average, out of 27 live babies, roughly 74.07% (20 kids) were delivered to the mother without any issues, and 25.92% (7 babies) were recommended for NICU admission (Figure 3).

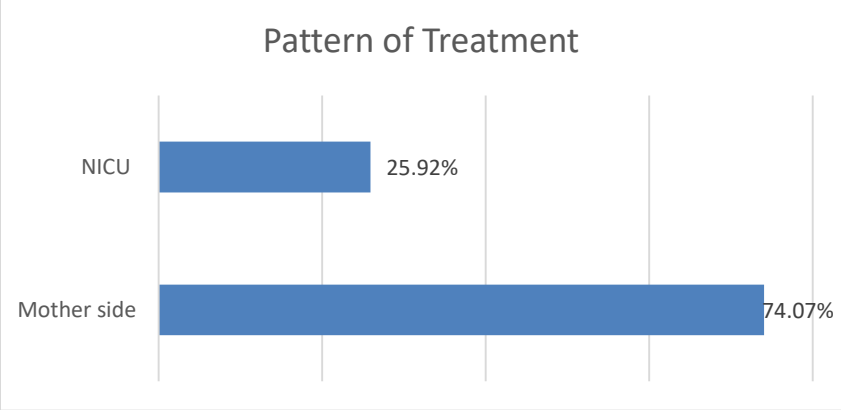

Figure 3

Table 2: indicated the mothers' ages who were UCP patients. Almost 33.33% of cases were discovered in mothers between the ages of 20-30, while 26.66% of mothers were discovered to have UCP when they were between the ages of 16-20.

Mother age	Frequency	Percentage
16-20	8	26.66%
20-30	10	33.33%
30-40	12	40%
Total	30	100%

Table 2: Age of mothers of UCP

Primigravida were the majority of the 30 cases.13 mothers, or around 43%, were discovered to be primigravida. While more than 3 gravida was detected in 5 mothers, 12 mothers were expected to have a 2nd gravida (Figure 4).

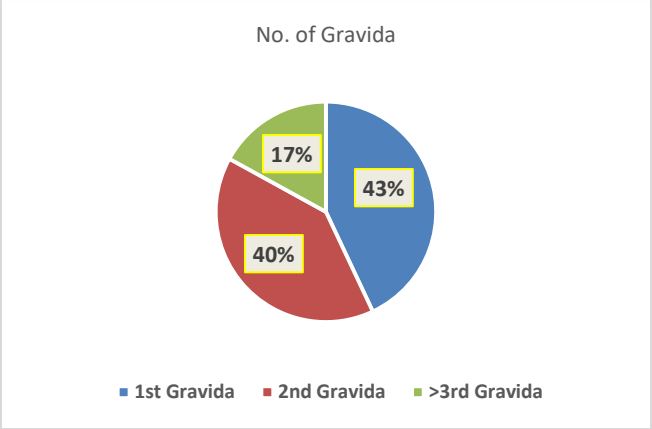

Figure 4

Figure 5 showed the risk factors of UCP cases. Pre labour rupture of membranes (66.67%) were mostly found as risk factors in 20 cases. Polyhdramnios (6.60%) were done in 2 cases and multiple pregnancy (16.67%) were found in 5 cases whereas the rest 3 cases had amniotomy (10%) done.

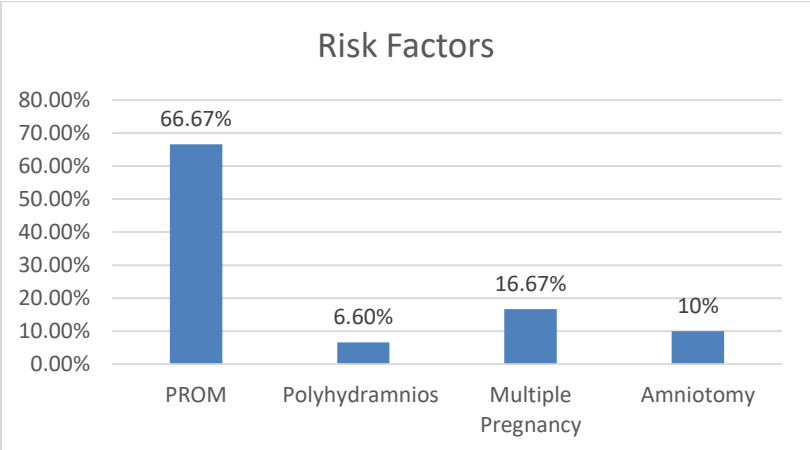

Figure 5

DISCUSSION

One study conducted by Nisar et al in 2019 concluded that cord prolapse is associated with severe fetal consequences that can be reduced by better knowledge of risk factors of cord prolapse by which prevalence of cord prolapse can be reduced. But once cord prolapse has occurred quick diagnosis and prompt management is needed to prevent fetal complications.(2) Likewise in my study it showed that severe fetal complications are associated with cord prolapse i.e. 25.9% needed NICU admission.

Another study conducted by Omololu et al in Nigeria done in 2017 stated that umbilical cord prolapse is associated with significant perinatal mortality in this study especially in those with spontaneous rupture of membranes that occurred outside the hospital setting.(3). Similarly my this study showed that 10% had still birth and 25.9% required NICU admission.

A study was conducted in central hospital Yaounde Cameroon between 2003 to 2006.During this period,there were a total of 6924 deliveries amongst which 47 were complicated by umbilical cord prolapse (2.8 per 1000 deliveries).Among the women with cord prolapse, 62.2% were delivered by emergency caesarean section. Fetal demise was reported in 32 % of the women upon admission. An abnormal pelvis was seen in 25.5% of the women. Artificial rupture of membranes was carried out in 40.4%.It showed Cord prolapse are associated with severe fetal consequences. A good knowledge of the risk factors, quick diagnosis and prompt management of cord prolapse is needed for preventing its complications.(4).In this study total 30 cases of umbilical cord prolapse were chosen for this study. The majority of deliveries were carried out via normal vaginal delivery (59.35%), while caesarian sections (40.65%) were shown to be less common than normal vaginal delivery. Primigravida were the majority of the 30 cases.13 mothers, or around 43%, were discovered to be primigravida. While more than 3 gravida was detected in 5 mothers, 12 mothers were expected to have a 2nd gravida.The risk factors of UCP cases were Pre labour rupture of membranes (66.67%) mostly found as risk factors in 20 cases. Polyhdramnios (6.60%) were done in 2 cases and multiple pregnancy (16.67%) were found in 5 cases whereas the rest 3 cases had amniotomy (10%) done.

A 10 year retrospective review of cord prolapse deliveries done in the main two civil hospitals in North Jordan between 1995 and 2005, at Princess Badeea Hospital and at King Abdullah University Hospital (KAUH) in Irbid, North Jordan. There were 146 patients identified with UCP among a total of 64,192 consecutive births. The incidence of cord prolapse was one in 440 cases (146/64,192). It occurred mostly in women over 25 years, and significantly more in pre-term births, low birth weight babies, multigravida, and only a few were associated with induced cases. It was not associated with higher rates of perinatal mortality and this supports the benefit of clinical management of UCP by emergency (crash) delivery.(5). Similarly this study showed the incidence of cord prolapse 30 case over three years duration in total of 25637 cases.It occurred mostly in primigarvida. It was mostly associated with Prelabour rupture of membrane.

CONCLUSION

Umbilical cord prolapse is a rare complication that is more common in preterm deliveries, nonvertex

fetal presentation, and spontaneous rupture of membranes. From our study we thus conclude that cord prolapse is associated with severe fetal consequences that can be reduced by better knowledge of risk factors of cord prolapse by which incidence of cord prolapse can be reduced. But once cord prolapse has occurred quick diagnosis and prompt management is needed to prevent fetal complications.

Limitations:

This is a retrospective study so data might be missing, inadequate sample size was there and small duration of study was there.

Conflict of Interest: None

Key words: UCP, NICU, Prelabour rupture of membrane

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