

OUTCOMES OF TRIAL OF LABOUR OF NUCHAL CORD

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ABSTRACT

Objective: To find out the maternal and perinatal outcomes in cases of trial of labour of babies with nuchal cord.

Material and Methods: A retrospective, one year cross-sectional study done at Kalsoom Maternity Hospital (KMH), Peshawar. During this period, patients were enrolled in the study and were analyzed for presence of nuchal cord prior to and at the time of delivery, number of coils, spontaneous labour, intrapartum complications, outcomes of labour whether normal delivery, instrumental delivery or emergency caesarian section and perinatal outcome. As a measure of perinatal outcome Apgar score at 5 minutes and incidence of neonatal unit admission was taken. The cases with nuchal cord at the time of delivery were 258 taken as study group.

Results: Incidence of nuchal cord was 10.6%. 211 patients with nuchal cord had normal vaginal delivery with 81% babies good apgar score >7. Of the patients undergoing trial 10.8% ended up into instrumental delivery and 7.4% had emergency section. Of the patients who had section 13% had fetal distress with meconium stained liquor and fetal bradycardia, and 6 patients had failure to progress.

Conclusion: Nuchal cord is not associated with adverse perinatal outcome therefore should not influence mode of delivery.

Key Words: nuchal cord, perinatal outcome, apgar score.

INTRODUCTION

In condition of nuchal cord, umbilical cord is wound around fetal neck of fetus. The prevalence of nuchal cord at delivery is extremely high with a single loop reported in around the 30% of neonates¹. It is believed by most obstetricians to be the cause of unexplained fetal distress or perinatal death but this is not true and such effects may have been attributed to other conditions.

However, whether or not nuchal cords are associated with significantly increased adverse perinatal outcome is debated. Studies of outcomes after nuchal cord in singleton pregnancies delivering term have reached conflicting conclusions. Some Authors^{2,3,4} reported that the nuchal cord is associated with an increased risk of fetal distress, meconium-stained amniotic fluid and lower Apgar score whereas others^{5,6} did not find an increased frequency of non reassuring fetal heart rate patterns, operative vaginal delivery and low Apgar score in cases with nuchal cord. Ogueh et al reported umbilical cord nuchal loops are associated with induction of labor, slow progress of labor, and shoulder dystocia⁷.

Sheiner et al⁸ reported a higher rate of labour induction and not reassuring fetal heart pattern, but

no significant association with perinatal mortality or caesarean section. Thus trial of labour should be given before undergoing elective section, which itself leads to maternal morbidity and increase rate of section. Trial of labour does not poses significant fetal risk.

MATERIAL AND METHODS

A retrospective, cross-sectional study was done at Kalsoom Maternity Hospital (KMH) Peshawar. A review of the labor records was carried out where demographic data on the mother included age, parity, previous personal and obstetric history, data for gestational age, induction or spontaneous labour, number of cord at time of admission and delivery, presence of meconium in the amniotic fluid, fetal heart rate monitoring in labour, method of delivery, and how many ended in emergency section. The newborn's record was used to collect data for Apgar score and any admission to neonatal ICU.

Of the 1977 vaginal deliveries, 258 were selected as study group after undergoing inclusion criteria of singleton, normal, cephalic pregnancy between 37 and 41 completed weeks with cord around neck at time of delivery after spontaneous labour. The remaining were excluded from the study after following exclusion criteria of postdates, abnormal, non-cephalic presentation or induced pregnancies.

RESULTS

Incidence of nuchal cord was 16.3%. Twelve hundred and eleven patients with nuchal cord had normal vaginal delivery with 81% babies good apgar

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score >7.25% had apgar score <7. Two neonatal admission were done for 24 hour in vaginal delivery group and then discharged for babies with apgar score 3/10,5/10 and 4/10 ,6/10 respectively.

Of the patients undergoing trial 10.8% ended up into instrumental delivery and 7.4% had emergency section of which 68.4% were done for fetal distress with meconium stained liquor and fetal bradycardia, and 31.6% for failure to progress. Out of 22 vacuum deliveries, 9 patient had meconium stained liquor,⁵ had poor maternal effort,² had malposition and 6 had prolong second stage of labour. Of the babies delivered 81.8% had good apgar score with only 18.2% had score < 7 at 5min but none of them needed a neonatal icu admission. There were 6 forcep delivery with 3 indicated for poor maternal effort and 3 for prolong second stage of labour. All babies were born with apgar score > 7 at 5min.

DISCUSSION

The incidence of nuchal cord varies from 12.6% to 33.3%⁹ in prior studies and in this study it was 16.3% Thus, nuchal cords commonly occur. The presence of a nuchal cord in this study was not associated with an increased frequency of vacuum or forceps deliveries. About 8.5% had vacuum delivery and 2% forcep delivery thus, operative deliveries were not more common in those patients undergoing trial of labour with nuchal cords, although this is controversial in the literature^{10,12,14}.

Shui and Eastman¹¹ found a higher fetal death rate in those deliveries not involving nuchal cords, and concluded that coiling of the umbilical cord around the infant's neck was a rare cause of perinatal death and there were no significant differences between the babies with and without nuchal cord in birthweight, non-reassuring fetal hearttones, Apgar scores below⁷, or operative vaginal deliveries. The cesarean rate was actually highest among the women whose babies did not have nuchal cord.

The presence of a nuchal cord is often cited as a major cause of fetal distress, as evidenced by meconium stained amniotic fluid and/or fetal bradycardia or tachycardia^{10,13,15}. In a study by Fisher,¹⁶ fetal distress was twice as common in births complicated by nuchal cords which is reverse of Spellacy et al¹³ stated that the incidence of meconium is not increased by nuchal cords In this study only 4.3% had meconium and none of them had bradycardia or tachycardia. The meconium staining of liquor in this study was managed by intrauterine wash with normal saline with 5 minute apgar score at birth >7.

Similar findings by other suggest that nuchal cords are not a major cause of fetal asphyxia^{12,14}. Studies in the past have implicated nuchal cords as a cause of fetal death¹⁷. but several authors agree with the present study that nuchal cords do not increase fetal mortality^{10,12,13,16}. Doing elective ceaserian section for solely nuchal cord when perinatal outcome is not affected, will only add additional morbidity to mothers health and increasing rate of section. The maternal

mortality is higher than that associated with vaginal birth (5.9 for elective cesarean delivery v. 2.1 for vaginal birth, per 100 000 completed pregnancies¹⁸.

Although elective ceaserian may be opted by patients to avoid intrapartum complication of nuchal cord ,what they don't realise is they are exposing babies to neonatal complications like the risk of neonatal respiratory distress necessitating oxygen therapy is higher if delivery is by cesarean (35.5 with a prelabour cesarean v. 5.3 with vaginal delivery, per 1000 live births)¹⁹.So trial of labour should be opted by obstetrician as it does not affect the morbidity of fetuses.

CONCLUSION

Nuchal cords occur commonly, but are rarely associated with significant neonatal morbidity or mortality. Rate of instrumental delivery is not increased in nuchal cord nor is emergency c/ section.

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