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A Descriptive Study of Perinatal Outcome of Second Born Twin At Department of Obstetrics And Gynaecology, SMS Medical College And Associated Hospitals, Jaipur

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Abstract

Background: The second twin is generally considered at higher risk of severe morbidity and mortality because of obstetric complications that may occur after delivery of the first twin.

Methods: The hospital based descriptive type of observational study was conducted in the Department of Obstetrics and Gynaecology, SMS Medical College, Jaipur from January 2017 to Dec. 2018.

Results: Maximum newborn 27 (45%) were in range 2.1 - 2.5 kg. Mean birth weight was 1.86± 0.62 Kg. 53.96% neonate APGAR score was 5-7 followed by 41.27% neonate APGAR score was >7 and 4.76% neonate APGAR score was less than 5. Prevalence of neonatal mortality in our study was 7.93%. 31.47% neonates were admitted in NICU.

Conclusion: Second twin had low Apgar score and chance of neonatal admission was more.

Keywords: NICU, APGAR score, Neonates.

Introduction

Procreation, the endless quality of reproduction and its regulation bestowed to all living cells by nature, irrespective of species or kind is miraculous. Multiple gestation is a mixed blessing and if successful, allows a couple to rapidly expand their family with a minimum number of pregnancies but it's a great challenge to the concerned obstetricians.[1]

A multiple birth is a birth of two or more babies in one parturition. Simultaneous development of two fetus (twin) is the commonest, although with newer infertility treatment protocols, development of 3-8 fetus have been reported. [2]

Twin pregnancies have been found to vary in different parts of the world. The highest incidence is in Nigeria (49/1000) and the lowest in China and Japan (2/1000) while Europe and USA have the intermediate incidence (5.9-8.9/1000).[3]The incidence of twin pregnancy has been on the rising trend, 65% since 1980.[4,5]

The second twin is generally considered at higher risk of severe morbidity and mortality because of obstetric complications that may occur after delivery of the first twin. Including placental separation, cord prolapse, uterine atony, long interval delivery and cervical spasm.[6]

Material & Methods

Study Design: Hospital-based descriptive type of observational study.

Place of Study: Department of Obstetrics and Gynaecology, SMS Medical College & associated Hospitals, Jaipur.

Duration of Study: From April 2017 to Nov 2018

Type of Study: Descriptive type

Study Population: Pregnant women who have confirmed diagnosis of twin gestation attending Labour room of Department of Obstetrics and Gynaecology, SMS Medical College & associated Hospitals with period of gestation 28 weeks or more was included in the study.

Inclusion Criteria

- Diagnosis of twin pregnancy confirmed by ultrasound examination.
- Pregnant women who have twin gestation with period of gestation 28 weeks or more and are giving written and inform consent.
- Age between 18-36 years.
- First twin with cephalic presentation and selected for vaginal delivery.

Exclusion Criteria

- Pregnant woman with pre-existing medical complication like chronic hypertension, diabetes mellitus, renal disease, collagen vascular disease, or any other disorder that could complicate the present pregnancy.
- Intrauterine death of either one of twin before the onset of labour.
- Pregnancies complicated by fetal malformation or lethal anomaly of either twin.
- Contraindication to vaginal delivery.

METHODOLOGY

- Ethical clearance for doing this study was obtained from the Institutional Ethics Committee.
- Pregnant women who have confirmed diagnosis of twin gestation attending Labour room of Department of Obstetrics and Gynaecology, SMS Medical College & associated Hospitals with period of gestation 28 weeks or more was included in the study.
- After their complete medical & surgical history and a thorough physical examination was done.
- After applying inclusion and exclusion criteria patients written informed consent was taken.
- All the relevant information were recorded in the case record form, e.g., maternal age, gravidity, parity, detailed history, clinical examination findings including obstetric examination, ultrasound reports, gestational age at birth, presentation of both the fetuses at labor and delivery, mode of delivery, birth weight, and lastly, perinatal outcome of the babies including perinatal morbidity (neonatal illness and complications), and mortality (stillbirth and early neonatal death).

Statistical Analysis

Continuous variables were summarised as Mean and Standard Deviation whereas nominal / categorical variables as proportion (%).

Unpaired 't' test and parametric test were used for analysis of continuous variables while chi-square test / fisher exact test and other non-parametric test was used for normal / categorical variables.

p-value < 0.05 was taken as significant.

MEDCALC 16.4 version software was used for all statistical analysis.

OBSERVATIONS & DISCUSSION

Maximum cases (46.08%) in our study were in 18-25 yrs age group followed by 39.68% cases were in 26-30Yrs age group, 12.72% cases were in 31-35 yrs age group and 1.59% cases were in more than 35 yrs age group. Mean age of patient was found to be 25.15 years.

Table no.1. Birth weight wise distribution

Birth weight (Kg)	No. Neonates	Percentage
1-1.5	**11**	**18.33**
1.6-2.0	**15**	**25.00**
2.1-2.5	**27**	**45.00**
2.6-3.0	**6**	**10.00**
More than 3.0	**1**	**1.67**
Total	**60**	**100.00%**
Mean birth weight (Kg)	1.86	
SD	0.62	

Maximum newborn 27 (45%) were in range 2.1 - 2.5 kg. Mean birth weight was 1.86± 0.62 Kg.

Twin pregnancy is more likely to be characterized by LBW than singleton pregnancy mostly due to fetal growth restriction and preterm delivery [7]. The percentages of VLBW (<1500 g) and LBW (1500–<2500 g) babies were higher among the second twins compared to the first twins. We also observed that perinatal outcome of the second twins was unfavorable among LBW (<2500 g) babies than normal birth weight (≥2500 g) babies. Other studies also support our findings [8,9].

Table no.2. APGAR score wise distribution

APGAR score at 5 min.	No. of cases	Percentage
Less than 5	3	4.76%
5-7	34	53.96%
>7	26	41.27%
Total	**63**	**100.00%**

In 53.96% neonate APGAR score was 5-7 followed by 41.27% neonate APGAR score was >7 and 4.76% neonate APGAR score was less than 5.

Which could be due to the reason that preterm babies are more easily affected by asphyxia than their term counterparts. Similar to this study, Armson et al[10] also observed lower APGAR scores in premature neonates which they have attributed to the lower gestational age and low birth weight

In this study, low APGAR score in the second twins was comparable to the similar study done by Hartley and Hitti,[11] and Chang et al.[12] This could be due to reduced placental circulation after the delivery of the first twin and potentially greater susceptibility of second twin to hypoxia.

Yang et al [13]also observed low APGAR score for second twin.

Table no.3. NICU admission wise distribution

NICU admission	No. of cases	Percentage
Yes	20	31.74%
No	43	68.29%
Total	**63**	**100.00%**

In our study 31.47% neonates were admitted in NICU. There lower birth weight & prematurity had higher morbidities and mortalities

Joshi R et al[14] observed that 30.00% neonates admitted in NICU.

Table no.4. Neonatal mortality wise distribution

Neonatal mortality	No. of cases	Percentage
Yes	5	7.93%
No	58	92.07%
Total	**63**	**100.00%**

Prevalence of neonatal mortality in our study was 7.93%. Katarzyna Kosińska-Kaczyńska et al[15] was observed that prevalence of neonatal mortality in our study were 4.3%.

Conclusion

Second twin had low Apgar score and chance of neonatal admission was more.

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