

Perinatal Outcome of Second Born TwinLakshmi Salodia¹, Tasneem Zahra², Ankita Kasliwal³, Priyanka Upadhyay⁴¹Assistant Professor, Department of Obstetrics and Gynaecology, PNKS Government Medical College, Dausa²Associate Professor, Department of Obstetrics and Gynaecology, PNKS Government Medical College, Dausa³Assistant Professor, Department of Obstetrics and Gynaecology, PNKS Government Medical College, Dausa⁴Assistant Professor, Department of Obstetrics and Gynaecology, Government Medical College, Bundi

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Conflict of interest: Nil

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 on Pregnant women who have confirmed diagnosis of twin gestation attending Labour room of Department of Obstetrics and Gynaecology with period of gestation 28 weeks or more were included in the study..**Results:** In 54.00% neonate APGAR score was 5-7 followed by 42.00% neonate APGAR score was >7 and 4.00% neonate APGAR score was less than 5. 84.00% deliveries were ND followed by 14.00% delivery was AVBD and 2.00% delivery was IPV-BE.**Conclusion:** Second twin had low Apgar score and chance of neonatal admission was more.**Keywords:** NICU, APGAR score, Neonates.

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Introduction

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. [1]

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). The incidence of twin pregnancy has been on the rising trend, 65% since 1980. [2]

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. [3]

Material & methods

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

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 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

- 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.

Observations

Table 1: Birth weight wise distribution

Mean birth weight (Kg)	1.92
SD	0.682

Maximum newborn 22 (44%) were in range 2.1 - 2.5 kg. Mean birth weight was 1.86 ± 0.62 Kg.

Table 2: APGAR score wise distribution

APGAR score at 5 min.	No. of cases	Percentage
Less than 5	2	4.00%
5-7	27	54.00%
>7	21	42.00%
Total	50	100.00%

In 54.00% neonate APGAR score was 5-7 followed by 42.00% neonate APGAR score was >7 and 4.00% neonate APGAR score was less than 5.

Table 3: NICU admission wise distribution

NICU admission	No. of cases	Percentage
Yes	16	32.00%
No	34	68.00%
Total	50	100.00%

In our study 32.00% neonates were admitted in NICU. There lower birth weight & prematurity had higher morbidities and mortalities

Table 4: Neonatal mortality wise distribution

Neonatal mortality	No. of cases	Percentage
Yes	4	8.00%
No	46	92.00%
Total	50	100.00%

Prevalence of neonatal mortality in our study was 8.00%.

Table 5: Mode of delivery wise distribution

Mode of delivery	No. of cases	Percentage
AVBD	7	14.00%
ND	42	84.00%
IPV-BE	1	2.00%
Total	50	100.00%

In our study was 84.00% delivery were ND followed by 14.00% delivery was AVBD and 2.00% delivery was IPV-BE.

Discussion

Maximum newborn 22 (44%) 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 delivery⁴. 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 [5,6].

In 54.00% neonate APGAR score was 5-7 followed by 42.00% neonate APGAR score was >7 and 4.00% 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 [7] 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, [8] and Chang et al. [9] 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 [10] also observed low APGAR score for second twin.

In our study 32.00% neonates were admitted in NICU. There lower birth weight & prematurity had higher morbidities and mortalities. Joshi R et al [11] observed that 30.00% neonates admitted in NICU Prevalence of neonatal mortality in our study was 8.00%.

Katarzyna Kosińska-Kaczyńska et al [12] observed that prevalence of neonatal mortality in his study were 4.3%.

Conclusion

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

Bibliography

1. ACOG. Multiple gestation: complicated twin, triplet, and high order multifetal pregnancy. Practice bulletin No. 56. ObstetGynaecol. 2004; 104(4): 869-83.
2. Multiple pregnancy. In: Cunningham FG, Levono KJ, Bloom SL, Hauth JC, Rouse DJ, Spong YC, editors. Williams Obstetrics. 23rded. New York: Mc GrawHill; 2010. p. 85 9-89.
3. MacKay AP, Berg CJ, King JC, Duran C, Chang J. Pregnancy related mortality among women with multifetal pregnancies. ObstetGynecol2006; 107: 563-8.
4. Buekens P, Wilcox A. Why do small twins have a lower mortality rate than small singletons? Am J Obstet Gynecol. 1993; 168:937-41.
5. Aisien AO, Olarewaju RS, Imade GE. Twins in Jos Nigeria: a seven-year retrospective study. Med Sci Monit. 2000; 6:945–50.
6. Donovan EF, Ehrenkrantz RA, Shankaran S, et al. Outcomes of very low birth weight twins cared for in the National Institute of Child Health and Human Development Neonatal Research Network's intensive care units. Am J Obstet Gynecol. 1998; 179: 742–9.
7. Armson BA, O'Connell C, Persad V, Joseph KS, Young DC, Baskett TF. Determinants of perinatal mortality and serious neonatal morbidity in the second twin. Obstet Gynecol. 2006; 108(3):556-64.
8. Hartley RS, Hitti J. Birth order and delivery interval: analysis of twin pair perinatal outcomes. J Matern Fetal Neonatal Med. 2005; 17(6):375-80.
9. Chang TH, Jeng CJ, Lan CC. The effect of birth order in twins on fetal umbilical blood gas and Apgar score. Zhonghua Yi Xue Za Zhi. 1990; 46(3):156-60.
10. Yang Q, Wen SW, Chen Y, Krewski D, Fung Kee Fung K, Walker M. Neonatal mortality and morbidity in vertex-vertex second twins according to mode of delivery and birth weight. J Perinatol. 2006; 26:3–10. doi: 10.1038/sj.jp.7211408.
11. Joshi R, Baral G. Perinatal Outcome of the Second Twin. NJOG 2015 Jan-Jun; 19 (1):89-93.
12. Katarzyna Kosińska- Kaczyńska, Iwona Szymusik. Perinatal outcome according to chorionicity in twins — a Polish multicenter study. Ginekologia Polska 2016; 87, 5: 384–389.