Section: Obstetrics & Gynaecology

Original Research Article

INCIDENCE AND FACTORS ASSOCIATED WITH MULTIPLE PREGNANCY AND ITS MATERNAL AND PERINATAL OUTCOME IN A TERTIARY HOSPITAL IN NORTH- EAST INDIA

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ABSTRACT

Background: Multiple pregnancies are considered high-risk pregnancy. To reduce maternal deaths and neonatal morbidity further, factors associated with maternal and perinatal outcome of twin pregnancy must be thoroughly studied.
Material and Methods: A prospective study among 309 pregnant women admitted in the Department of Obstetrics & Gynaecology JNIMS, Porompat was conducted to determine the incidence of twin pregnancy, factors associated with twin pregnancy and also to study the maternal and perinatal outcome of twin pregnancy. The study was carried out for 2 years from September 2020 to August 2022. The approval of the study was obtained from the Institutional Ethics Committee, JNIMS Porompat. Written informed consent was obtained from the study participants before data collection and confidentiality was maintained.
Results: Out of 309, 8 were twins, so, incidence of twin pregnancy in this study was 2.5%. Multipara was common among twin pregnancy. Period of gestation was significantly lower among twin pregnancy than singleton pregnancy. Incidence of preterm delivery was seen in more than 1/3rd among twin pregnancy. Half of the twin pregnant mothers had anaemia. And a quarter of them needed CS. But no maternal and neonatal death was observed in this study.
Conclusion: Twin pregnancies were found to be associated with adverse maternal and neonatal outcome. This clearly indicates the need for screening program for early detection of twin pregnancies, timely referral, better antenatal care and delivery at institution with good neonatal care unit. Further studies with better methodology and a bigger sample size will be needed to give a clear picture of twin pregnancies.
Keywords: Twin pregnancy, Age, POG, Parity, Maternal Death, Neonatal outcome.

INTRODUCTION

The most common variety of multiple pregnancy is twin pregnancy which is considered a high-risk pregnancy. The incidence of spontaneous twin pregnancy varies worldwide. It accounts for 2 to 4% of the total number of births. Bleeding per vaginum in early pregnancy is a common presentation in the emergency room,[1] Estimates suggest that approximately one half of the pregnancy will continue and one half will lead to miscarriage. About 50-70% 0f case of spontaneous abortions is due to genetic abnormalities.[2] Moreover, maternal death (MD) associated with a twin pregnancy is 2.5-fold higher than in a singleton pregnancy.[3] Maternal morbidity and mortality associated with twin pregnancy have not been appropriately discussed in the literature, since there are few studies on the topic. The few existing studies have methodological limitations, and a small number of cases. Proper

knowledge and vigilance in the antepartum, intrapartum, as well as postpartum period, becomes very essential in case of multiple pregnancy. Hence this study was conducted to determine the incidence of twin pregnancy among pregnant women and the factors associated with twin pregnancy and also to study the maternal and perinatal outcome of twin pregnancy.

MATERIALS AND METHODS

This study was a prospective study conducted in the Department of Obstetrics & Gynaecology, JNIMS, Porompat from September 2020 to August 2022. Study population included all pregnant women above 18 years of age and period of gestation above 28 weeks admitted in the Department of Obstetrics & Gynaecology JNIMS, Porompat.

Exclusion Criteria

1. Pregnant mothers with serious medical and surgical problems
2. Patients who refused to give consent

Maternal age, parity, gestational age, literacy, blood pressure, pre-eclampsia, weight, height, body mass index (BMI), 24 hours urinary protein, mode of delivery, any complications were noted. Records of pregnant women with twin pregnancy ultrasonography reports with women with twin pregnancy and proforma were used for study tools. Descriptive statistics like mean, standard deviation, and percentages were used. Inferential statistics like t-test, Chi-Square test and Fisher exact tests were used for finding test of significance. P value of <0.05 was considered statistically significant. The approval of the study was obtained from the Institutional Ethics Committee, JNIMS Porompat. Written informed consent was obtained from the study participants before data collection. Confidentiality was maintained by limiting the identifying variables to the minimum. Data were analysed in aggregate. Access to the collected data was limited only to the researcher.

RESULTS

Out of 309, 8 were turned out to be twin so, incidence of twin, pregnancy in this study was 2.5%.

Table 1 shows that age in twin pregnancy is lower than singleton pregnancy but the finding was statistically insignificant. (p>0.05). Mean age of twin pregnancy was 29.3 years with a standard deviation of 4.6 years and it was not significantly different with mean age of singleton pregnancies. There was also no significant difference regarding the distribution of address among the two groups. [Table 2] But regarding POG, twins POG was significantly lower than the singletons POG (35.0 ± 0.92 Vs 39.2± 1.5 weeks, p-0.000). [Table 3] Malpresentation, pre-eclampsia and CS delivery was more among twin pregnancy but statistically insignificant (p>0.05). preterm delivery, LBW and APGAR score <9 was more among twin pregnancy and these findings were found to be statistically significant (p<0.05). [Table 4]

Table 1: Age distribution of the respondents

Age in years	Singleton pregnancy	Twin pregnancy	Chi-square test (Yates' corrected)
18-20	0(0.0)	0(0.0)	Value=0.556 p-0.947
21-24	65(21.6)	1(12.5)	
25-30	117(38.8)	4(50.0)	
31-35	119(39.6)	3(37.5)	
Total	301(100.0)	8(100.0)	
Mean ± SD	29.5 ± 4.2	29.3 ± 4.6	

Table 2: Distribution of the respondents by address

Address	Singleton pregnancy	Twin pregnancy	Chi-square test
Rural	157(52.2)	4(50.0)	Value=0.015 p-0.902
Urban	144(47.8)	4(50.0)	
Total	301(100.0)	8(100.0)	

Table 3: Distribution of the respondents by period of gestation

Types of pregnancy	Gestation in weeks Mean ± SD	t-test p-value
Singleton pregnancy	39.2± 1.5	t=-7.33 p-0.000
Twin pregnancy	35.0 ± 0.92	

Table 4: Distribution of the respondents by other maternal and perinatal outcome variables

Other variables	Singleton pregnancy	Twin pregnancy	Chi-square test
Malpresentation(yes)	35(11.6)	3(37.5)	Value=0.015 p-0.902
Pre-eclampsia (yes)	15(4.9)	1(12.5)	Value=0.897 p-0.34
Preterm delivery (Yes)	7(2.4)	3(37.5)	Value=30.7 p-0.00
CS delivery	27(8.9)	2(25.0)	Value=2.3

			p-0.12
LBW (yes)	33(10.9)	8(50.0)	Value=20.5 p-0.000
Apgar score (<9)	15(10.9)	6(37.5)	Value=24.4 p-0.000

DISCUSSION

Multiple pregnancy are prone to complications for both the mother and the child. Incidence of twin pregnancy in this study was 2.5%. This finding is in concordance with the study by Bhalla S et al,[4] where incidence of twin pregnancy in their study was 2.8%. Almost similar finding was also found in the study by Upreti P et al,[5] where incidence of twin pregnancy was 1 in 52 or 1.9%. Pandey MR et al,[31] had the same finding. Mean age of women with twin pregnancy was 29.3 years with a standard deviation of 4.6 years and it was not significantly different with mean age of singleton pregnancies. Mean age of twin pregnancies was almost similar with the studies by Upreti P et al,[5] and Panday MR et al,[6] where mean age was 25.4 years. In a study by Basirat et al,[7] the mean age was not significantly different for single or twin pregnancy. Multipara among twin pregnancy was seen in 62.5% which is consistent with the finding Masuda S et al[8] and Ali J et al,[9] where multipara was seen in 66% and 65.2% respectively. Bangal VB et al,[10] and Blickstein et al,[11] observed no difference in parity between singleton and twin pregnancies same as this study. Period of gestation was significantly (<0.05) lower among twin pregnancy (35.0±0.92 weeks) than singleton pregnancy (39.2±1.5 weeks) in this study. Similar findings were noted in the studies by Upreti P et al,[5] and Muzhar et al,[12] where both had mean gestational age of 35 weeks. Incidence of preterm delivery was seen in 37.5% of twin pregnancy in this study which is almost same with the study by Chowdhury S. et al.[13] (44%) Preeclampsia was seen in 12.5% in this study which is almost similar to the study by Upreti P et al,[5] where it was 17.9%. Anaemia was seen in half of the women in this study. Similar finding was noted in the study by Ali J et al,[9] where anaemia was seen in 45% of twin pregnancies. In the study by Bhalla S et al,[4] anaemia was seen in 62% which is higher than this study. Maternal complications like preterm labour, anemia, PIH, are common in the study by Deepthi HR et al.[14] Cesarean section was seen in 25.0% of twin pregnancy in this study. CS was higher in most of the studies, Bhalla S et al,[4] had CS rate of 54%. CS rate in Rami BD et al[15] study was 40%. No neonatal and maternal mortality was seen in this study. There was no maternal[16] and neonatal death in the study by Chowdhury S et al.[13]

CONCLUSION

Twin pregnancies were found to be associated with adverse maternal and neonatal outcome. This clearly indicates the need for screening program for early detection of twin pregnancies, timely referral, better antenatal care and delivery at institution with good neonatal care unit. Further studies with better methodology and a bigger sample size will be needed to give a clear picture of twin pregnancies.

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