International Journal of Current Advanced Research
ISSN: O: 2319-6475, ISSN: P: 2319-6505, Impact Factor: 6.614
Available Online at www.journalijcar.org
Volume 10; Issue 12 (B); December 2021; Page No.25694-25696
DOI: http://dx.doi.org/10.24327/ijcar.2021.25696.5132

Research Article

FETO-MATERNAL OUTCOMES IN TWIN PREGNANCY

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A R T I C L E I N F O

Article History:
Received 6th September, 2021
Received in revised form 15th October, 2021
Accepted 12th November, 2021
Published online 28th December, 2021

Key words:
Twin pregnancy, Maternal outcome, Fetal outcome

A B S T R A C T

Objectives: Incidence of twin pregnancy has been increasing and it is associated with increased feto-maternal complications. This study aims to study the maternal and fetal outcomes in twin pregnancy patients coming to a tertiary care facility.
Methods: This was an observational study conducted over a 6 month period, including all the pregnant females admitted for delivery with a gestational age ≥28 weeks. Maternal demographic and obstetrical data were recorded. Fetal outcomes were assessed by Apgar score and NICU admissions.
Results: During the study period there were a total of 12,712 deliveries. Out of these, 183 were twin deliveries that constitute 1.44 % of the total deliveries. Maximum patients were multigravida, preterm and had spontaneous onset of labour. The major complications were Hypertensive disorders of pregnancy in 27.87%, Preterm leaking in 16.94% and anaemia in 34.45% patients.
Out of the 366 babies born, 340 were live and 26 were IUD. Maximum babies were low birth weight (66.39%), 18.04% babies had low Apgar score and 23.77% were admitted to NICU post delivery.
Conclusion: Twin pregnancy is associated with increased risk of feto-maternal complications. Good and regular antenatal care and early detection of complications can decrease these risks.

INTRODUCTION

Twin pregnancy is considered a high risk pregnancy. The incidence of twin pregnancy varies significantly among different regions and populations. Twinning is affected by maternal age, maternal height, race, parity, heredity, smoking habit, use of oral contraceptives and use of assisted reproductive techniques[(1-3)]. The incidence of twin pregnancy has been increasing. In India, the incidence of twinning has increased marginally in the last fourteen years[(4)].

Compared to singleton pregnancy, multiple pregnancies are reported to carry higher maternal as well as perinatal mortality and morbidity. The maternal complications include increased risk of anaemia, hyperemesis, preterm labour, hypertensive disorders of pregnancy, gestational diabetes, deranged Liver Function Tests, Antepartum haemorrhage, Premature rupture of membranes (PROM) and increased pressure symptoms. Also there is increased risk of perinatal mortality and morbidity owing to preterm deliveries and low birth weight.

This study was aimed to find the incidence of twin pregnancies and their maternal and fetal outcomes in a tertiary care hospital in north India. A very few number of studies are available on this topic from our part of the country. So knowing the obstetric outcomes of twin pregnancy in our region will help to deal with this high risk pregnancy in a better manner.

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METHODS

This was a prospective study conducted in the Department of Obstetrics and Gynaecology, SMGS Hospital, Govt. Medical College, Jammu which is a tertiary care hospital. The study was carried out over a six month period, after taking clearance from the hospital ethical committee. All the pregnant females admitted to the labour room for delivery during this period with a gestational age ≥28 weeks were included in the study and their informed consent was taken. A detailed history and complete physical examination was done. Record was made of maternal complications and mode of delivery. Fetal outcomes were assessed by Apgar score, NICU admissions and baby weight at time of birth. Data was collected and analysed using appropriate statistical tools.

RESULTS

Over the duration of 6 months study period, there were a total of 12,712 deliveries at SMGS Hospital. Out of these 183 were twin deliveries that constitute 1.44 % of the total deliveries.

The distribution of cases in relation to maternal socio-demographic profile is shown in Table 1. It was found that maximum number of females i.e. 77 out of 183 (42.03%) belonged to age group of 20-25 years. Out of the 183 females, 95 (51.91%) belonged to the urban areas and 88 (48.09%) were from rural areas.

The maternal obstetrical data is included in Table 2, that includes parity, gestational age and onset of labour. 105 patients carrying the twin pregnancy were multigravida i.e. 57.38%. It was seen that maximum number of patients reported to the hospital preterm i.e. gestational age <37 weeks, which included 113 cases i.e. 61.75% and majority of the patients had spontaneous onset of labour.

Twin pregnancy is associated with many complications and in our study also we found the following complications (Table 3). Hypertensive disorders of pregnancy in 51 patients (27.87%), preterm leaking was seen in 31 patients (16.94%), deranged LFTs in 4 patients (2.18%), APH in 9 patients (4.92%), GDM in 3 patients (1.64%) and anaemia in 63 patients (34.45%).

Table 1 Distribution of females according to the socio-demographic profile

Socio-Demographic parameters	Number of females	Percentage
AGE		
<20 years	5	2.73%
20-25 years	77	42.08%
25-30 years	64	34.97%
30-35 years	19	10.38%
≥35 years	18	9.84%
RESIDENCE		
Rural	88	48.09%
Urban	95	51.91%

Table 2 Maternal Obstetrical data

Obstetric parameters	Number of patients	Percentage
PARITY		
Primigravida	78	42.62%
Multigravida	105	57.38%
GESTATIONAL AGE		
<37 weeks	113	61.75%
37-40 weeks	66	36.07%
>40 weeks	4	2.18%

Table 3 Maternal complications in twin pregnancy

Maternal complication	Number of patients	Percentage
Hypertensive disorder of pregnancy	51	27.87%
Anaemia	63	34.45%
Preterm leaking	31	16.94%
Deranged LFTs	4	2.18%
GDM	3	1.64%
APH	9	4.92%

Table 4 Mode of delivery

Mode of delivery	Number	Percentage
VAGINAL	101	55.20%
LSCS	82	44.80%
AFD	35	42.68%
Imminent eclampsia/ eclampsia	3	3.66%
1st breech	19	23.17%
Transverse Lie	2	2.44%
Previous LSCS	18	21.95%
Non descent of head at full dilatation	2	2.44%
Retained twin	2	2.44%
Cord prolapsed	1	1.22%

101 cases (55.20%) underwent vaginal delivery and in 82 cases (44.80%) LSCS was done (Table 4). Most common indication for LSCS in our study was foetal distress (42.68%). Other indications included 1st breech (23.17%), previous LSCS (21.95%), imminent eclampsia (3.66%), non descent at full dilatation (2.44%) and transverse lie (2.44%). Only 2 LSCS were done for retained twin and 1 LSCS for cord prolapse.

Table 5 Foetal outcomes

FOETAL OUTCOME	Number	Percentage
Total babies	366	
Live	340	92.90%
IUD	26	7.10%
Baby weight		
<1000 gm	5	1.37%
1000-1500 gm	31	8.47%
1500-2000 gm	79	21.58%
2000-2500 gm	128	34.97%
≥2500 gm	123	33.61%
Sex		
Male	190	51.92%
Female	176	48.08%
APGAR score		
0/10	26	7.10%
Less than 7/10	66	18.04%
8/10 to 10/10	274	74.86%
NICU admissions	87	23.77%

Table 6 Comparison of maternal complications in our study with different studies

Maternal complications	Present study (Jammu)	Reddy MA *et al*[7] (Hyderabad)	Singh L *et al*[9] (Ranchi)	Upreti P[5] (Uttrakhand)	Shetty MB *et al*[6] (Bangalore)	Dr. Shayesta Rahi *et al*[3] (Kashmir)
Hypertensive disorders of pregnancy	27.87%	39.3%	32%	21.1%	32.9%	30%
PROM	16.94%	10%	10.67%	4.1%	38.01%	23.88%
Anaemia	34.45%	6.3%	44%	30.7%	17.7%	41.94%
APH	4.92%	3.6%	4%	5.9%	6.9%	9.1%
GDM	1.64%	-	-	-	7.10%	6.26%

Fetal outcomes were assessed according to Apgar score and baby weight at birth (Table 5). Out of the 366 babies born, 340 were live (92.90%) and 26 were IUD (7.10%). According to the baby weight, 5 (1.37%) were <1000 gm, 31 (8.47%) were between 1000-1500 gm, 79 (21.58%) between 1500-2000 gm, 128 (34.97%) between 2000-2500 gm and 123 (33.61%) >2500 gm. Out of 366 babies, 26 (7.10%) were IUD with Apgar score of 0/10. 66 babies (18.04%) had a low Apgar score i.e. <7/10. 274 babies (74.86%) had Apgar score of 8/10 to10/10. 190 babies (51.92%) were males and 176 babies (48.08%) were females. 2 out of 366 babies had congenital malformation. 23.77% i.e. 87 babies were admitted to NICU.

DISCUSSION

Twin gestation is a high risk pregnancy. The rate of twin births have increased over the years. In the present study, the incidence of twin pregnancy was found to be 1.44 %. Our results were consistent to a study conducted by Rizwan N *et al*[5] in Abbotabad that found incidence of twin pregnancy to be 1.44% and Basirat *et al*[6] (1.4%). Also the result is comparable to studies by Dr. Shayesta Rahi *et al*[7] in Kashmir (1.79%) and Ri-Na-Su *et al*[8] in Beijing (1.7%). Although the incidence is quite high in other studies like Upreti P[9] (1.9%) and Shetty MB *et al*[10] (3.61%).

It was found that maximum number of females in our study i.e. 77 out of 183 (42.08%) belonged to age group of 20-25 years. This is consistent to studies by Upreti P[9] and Reddy MA[11]. Although some studies reported more number of females belonging to higher age group. This may be attributed to high incidence of IVF conception in those age groups.

Out of the 183 females, 95 (51.91%) belonged to the urban areas and 88 (48.09%) were from rural areas. Not much data is available on rural urban distribution of patients in other studies.

105 patients carrying the twin pregnancy were multigravida i.e. 57.38% in our study. This is consistent to most of the other studies which also report majority of the twin patients being multigravida like Upreti P[9] (52.8%), Shetty MB *et al*[10] (54.3%), Masuda S *et al*[12] (66%) and Singh L *et al*[13] (54.67%).

It was seen that maximum number of patients reported to the hospital preterm i.e. gestational age <37 weeks, which included 113 cases i.e. 61.75%, that is consistent to most studies like that by Dr.Shayesta Rahi at al[7] (74.93%) and Shetty MB *et al*[10] (80.03%), as twin pregnancy leading to preterm deliveries is a known fact. And majority of the patients had spontaneous onset of labour.

Twin pregnancy is associated with many complications and in our study also we found the following complications (Table 3). Hypertensive disorders of pregnancy in 51 patients (27.87%), preterm leaking was seen in 31 patients (16.94%), deranged LFTs in 4 patients (2.18%) and GDM in 3 patients (1.64%), APH in 9 patients (4.92%) and anaemia in 63 patients (34.45%). Table 6 shows the comparison of the maternal complications seen in our study with some other studies.

There was no maternal mortality in our study. Present finding is consistent with the studies conducted by Upreti P[9] and Masuda S *et al*[12] who did not report any mortality.

101 cases (55.20%) underwent vaginal delivery and in 82 cases (44.80%) LSCS was done (Table 4). Studies by Upreti P[9] and Reddy MA *et al*[11] show similar LSCS rates i.e. 49.5% and 44.7% respectively. However studies like Shetty MB *et al*[10] reported a LSCS rate of 68%, that maybe due to the fact that the study was carried out at a premier institute MS Ramiah that receives very high risk pregnancies. Most common indication for LSCS in our study was foetal distress (42.68%). Only 2 LSCS were done for retained twin, that is similar to that reported by Upreti P[9] in her study.

Fetal outcomes were assessed according to Apgar score and baby weight at birth (Table 5). Out of the 366 babies born, 340 were live (92.90%) and 26 were IUD (7.10%). In the present study, 66.39% of the babies were low birth weight i.e. <2500 gms. It was in consistence to studies like Reddy MA *et al*[11] and Dr.Shayesta Rahi *et al*[7]. In studies like Upreti P[9] and Bangal *et al*[14] higher incidence of low birth weight babies around 80% were seen.

In the present study, 190 babies (51.92%) were males and 176 babies (48.08%) were females. Study by Mutihir *et al*[15] reported 54.7% of twins to be boys. Upreti P[9] reported 51.6% males and 48.4% females. However, females were found to be more frequent in studies by Melamed *et al*[16] and Chittacharoen A *et al* [17].

The present study although conducted over a short time interval gives us a fair idea about the obstetric outcomes in twin pregnancy.

CONCLUSION

Twin pregnancy is associated with increased risk of obstetrical complications and increased risk of perinatal morbidity and mortality due to preterm deliveries. Good and regular antenatal care, proper nutritional supplementation and early detection of complications can decrease the feto-maternal risks.

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