

ORIGINAL RESEARCH

Feto maternal outcome in Twin pregnancy

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ABSTRACT

Background: Due to the rising trend of delayed marriages and infertility the use of ART in today's scenario is quite common causing an increase in the incidence of twin gestation which is significantly associated with maternal and fetal morbidity and mortality. Hence a deep insight is needed to identify these risk factors and plan proper management. **Materials & Methods:** A retrospective study done over the period of 1 year (August 2021- July 2022) in the Deptt of obstetrics & Gynaecology SMGS Jammu over 50 patients with twin pregnancy beyond 28 weeks period of gestation after excluding all the patients with preexisting chronic disorders, with the aims of studying the sociodemographic factors associated with twin pregnancy and the maternal and neonatal outcome in such pregnancy. Data was statistically analysed using the specific tests. **Results:** Incidence of twin pregnancy was found out to be 17.6/1000 live births with the diamniotic dichorionic type being more common, mostly seen in the age group of 21-30, with more common occurrence in primigravida, presenting to hospital mostly between 28-36 weeks. Caesarean section being the commonest mode of delivery. Maternal complications commonly seen were anaemia, preterm labour and hypertension and fetal complications commonly seen were low Apgar scores at birth and birth weight discordance between the two twins. **Conclusion:** Twin gestation is a high risk for both the mother and the babies. Proper identification of risk factors along with timely intervention and surveillance is needed to improve the obstetric outcome.

Key Words: Twin pregnancy, multiple pregnancy, maternal outcome

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INTRODUCTION

Twin conception is rare, however when occurs then considered to be a high risk pregnancy. It has a variable incidence all over the world however in India, twinning occurs in approximately 1% of all pregnancies.¹ Due to the rising incidence of infertility and shifting trend toward delayed conception, a more common use of assisted reproductive technologies and ovulation induction is seen. This has increased the incidence of twin and higher order multifetal gestation with the passing years.

Multiple gestation is associated with higher rates of maternal complications like anemia, hypertensive disorders, preeclampsia, placental abruption and GDM.² Complications are seen in about 80% of multiple pregnancy as compared to approximately 25% of singleton pregnancy.³ Multiple pregnancies also have a greater risk of fetal complications like low birth weight, IUGR, growth discordance, prematurity, congenital anomalies and poor perinatal outcome.^{4,5} In India 10% of the perinatal mortality is a result of twin pregnancy.¹ As twin pregnancy is seen to be associated with so many risk factors both to the

mother and the fetus hence it becomes important to evaluate these pregnancies and timely plan to avoid and manage these complications.

MATERIALS AND METHODS

This study is a retrospective study conducted in the post graduate department of Obstetrics and Gynaecology, S.M.G.S Hospital, GMC Jammu. Data was collected from the hospital records over a period of one year from August 2021- July 2022. All the twin pregnancies beyond 28 weeks period of gestation admitted and delivered in the hospital during study period were included in the study and a total of 50 patients were studied. Aims of the study were to assess the incidence of twin pregnancy, sociodemographic factors affecting it and the various maternal and fetal complications encountered in twin gestation. All the higher order multifetal pregnancies, gestational age <28 weeks and patients with preexisting medical disorders like hypertension, cardiac disease, renal disease diabetes mellitus etc were excluded from the study. Data regarding maternal age, parity, gestational age, mode of

conception and family history was obtained. Also details of maternal and fetal complications that occurred during the course of pregnancy and labour were recorded. Mode of delivery was also determined whether vaginal or cesarean sections were done. Data was analysed using Microsoft Excel. Mean and standard deviations were calculated where ever required and Fisher exact test was used to compare the association by calculating p value.

RESULTS

After obtaining the data from records the incidence of twin pregnancy in our study was found out to be 17.6/1000 births. Out of the 50 patients with twin

gestation, 38(76%) of the patients were in the age group of 20-25 years, 9(18%) between 26-30 years and 3(6%) were >30 years of age. Most of the patients were primigravida i.e 32 out of 50 and only 18 were multigravida. About 70%(35/50) had a spontaneous conception and only 30%(15/50) had history of infertility and had conceived after treatment. Most of the patients presented to hospital prematurely either due to premature onset of labour or due to complications, most of them (34/50) were between 28-36 weeks of gestation and only 16 out of total 50 were having gestation >36 weeks. Table no 1 shows the above mentioned findings.

Table no 1: Demographic parameters

S.N.O	Parameter	No. of Patients (n=50)	Percentage	
1	Maternal age (years)	20-25	38	76%
		26-30	9	18%
		>30	3	6%
2	Gravidity	Primigravida	32	64%
		Multigravida	18	36%
3	Mode of conception	Spontaneous	35	70%
		Infertility treatment	15	30%
4	Gestational age in weeks	28-32	20	40%
		>32-36	14	28%
		>36	16	32%

It was seen that majority of the patients had caesarean section either elective or emergency. Out of the total 50 twins gestations studied 37(74%) were dichorionic diamniotic twins (DCDA) and 13(26%) were Monochorionic diamniotic twins (MCDA). DCDA twins in 54.05% underwent caesarean section and rest 45.94% of the cases delivered vaginally. Whereas 59.53% of the MCDA twins underwent caesarean section and 38.46% cases delivered vaginally (table 2).

Table no 2: Mode of delivery depending upon chorionicity

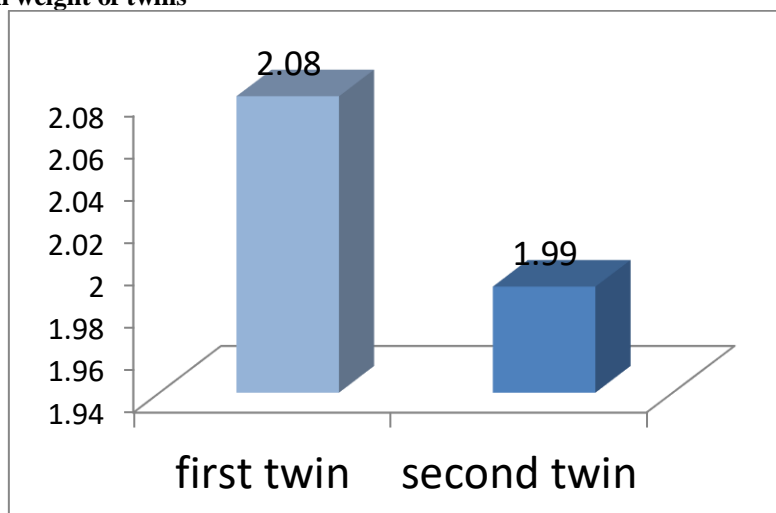
S.N.O	Mode of delivery	DCDA twins(n=37)	MCDA twins(n=13)	P Value
1	Vaginal	17(45.94%)	5(38.46%)	0.97
2	Caesarean section	20 (54.05%)	8(61.53%)	0.96

Different maternal and fetal complications were observed as tabulated in table no3. Many patients had multiple complications. The most common maternal complication seen was anaemia in about 30% of the patients followed by preterm labour(28%), hypertension(22%), hypothyroidism(15%), GDM(13%) and PPH(10%). No maternal mortality was seen in our study.

Among fetal complications, Low apgar score at birth(<7) was seen most commonly in 22% of the babies, followed by birth weight discordance in 20% of the twins. The mean weight of the first twin was 2.08±0.32 kg while the mean weight of the second twin was 1.99±0.31 kg.(Graph 1). Other complications seen were IUGR and neonatal death each in 12% of the cases. NICU admissions were seen in 10% of the cases.

Table no 3: Maternal and Fetal complications

S.N.O	Complication	Percentage	
1	Maternal complications	Anaemia	30%
		Preterm labour	28%
		Hypertension	22%
		Hypothyroidism	15%
		GDM	13%
		PPH	10%
2	Fetal complications	APGAR<7 at 1 minute	22%
		Birth weight discordance	20%
		IUGR	12%
		Neonatal death	12%
		NICU admission	10%

Graph no 1: Mean weight of twins**DISCUSSION**

The incidence of twin pregnancy estimated by our study was 17.6/1000 births which is similar to the study by Kumari K et al., 2020 (16.5/1000 live births) and Gajera AV et al.,2015 (17.6/1000 live births).^{6,7} In our study maximum number of patients i.e.38/50 (76%) were in the age group of 20-25 years, this is similar to the distribution seen by Gajera AV et al., 2015 where 60% of the patients were in the age group of 20-29 years.⁷ Most of the patients in our study were primigravida i.e 32 out of 50 and only 18 were multigravida, similar distribution was seen by Chaudhary V et al.,2021 where 66% of the patients with twin gestation were primigravida.⁸ However this is indifferent to study by Gajera AV et al.,2015 and Shobha Rani P et al.,2020^{7,9}. In our study 70% patients had a spontaneous conception and only 30% had history of infertility and had conceived after treatment. Similar results were obtained by Gajera AV et al.,2015 and Shobha Rani P et al.,2020 where spontaneous conception was seen in 75% and 80% of the pregnancies.^{7,9} Most of the patients with twin pregnancy presented to hospital prematurely either due to premature onset of labour or due to complications, most of them 68% were between 28-36 weeks of gestation and only 32% were having gestation >36 weeks. Similar results were obtained by Gajera AV et al.,2015 where despite the good

antenatal care about 46% patients delivered before 36 weeks of gestation.⁷

74% of the patients were dichorionic diamniotic twins (DCDA) and 26% were monochorionic diamniotic twins in our study, similar observation was seen in the study by Chaudhary V et al.,2021 where 78% of the patients were dichorionic diamniotic, 18% of the patients were monochorionic diamniotic and 4% were monochorionic monoamniotic.⁸ In our study majority of the twin had caesarean section (56%) either elective or emergency and only 44% of the twins delivered vaginally, this is consistent to the study by Chittachareon A, 2006 where caesarean section was the commonest mode of delivery.¹⁰ Unlike study by Gajera AV et al.,2015 where only 39% of the patients underwent LSCS and 61% delivered vaginally.⁷

The comparison of different maternal and fetal complication obtained in our study with other studies has been tabulated below in table no 4. Anaemia and preterm labour were the most commonly seen maternal complications in our study as obtained in other studies mentioned in the table no 4. The mean birth weight of the first twin in our study was 2.08±0.32 kg and of the second twin was 1.99±0.31 kg. In the study by Chaudhary V et al.,2021 these values were obtained to be 1.95±0.93 kg and 1.89±0.47 kg.⁸

Table no 4 Discussion on Maternal and fetal outcomes

S.N.O	PARAMETER	Present study	Chaudhary V et al., ⁸	Kumari K et al., ⁶	Mathew R et al., ¹¹	
1	Maternal complication	Anaemia	30%	20%	26.8%	8.25%
		Preterm labour	28%	22%	25.4%	64.22%
		Hypertension	22%	32%	22.5%	25%
		Hypothyroidism	15%	18%	-	14.6%
		GDM	13%	2%	5.6%	25.68%
		PPH	10%	-	-	13.76%
		Maternal death	-	-	-	-
2	Fetal complications	APGAR<7	22%	-	21.4%	-
		Birth weight discordance	20%	-	21.4%	6.8%

		IUGR	12%	-	11.4%	11.47%
		Neonatal death	12%	-	12.9%	3.66%
		NICU admissions	10%	30%	-	-

CONCLUSION

Despite the advances in antenatal care services provided these days still some major maternal complications like anaemia, preterm labour and hypertension and fetal complications like IUGR and increased NICU admissions are seen commonly. Hence detail study and proper vigilance and antenatal advice needs to be provided to such patients to manage these risks associated with multiple gestation and prevention of adverse outcome.

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