



ORIGINAL RESEARCH PAPER

Obstetrics & Gynaecology

A STUDY ON MATERNAL COMPLICATIONS AND FETO MATERNAL OUTCOME IN TWIN PREGNANCY AT GGH KADAPA.

KEY WORDS:

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ABSTRACT

Aims And Objectives

1. To study the fetomaternal outcome of twin pregnancies.
2. To study the prevalence of maternal and perinatal complications in patients with twin gestation at Government general hospital, kadapa.

Patients and methods: This retrospective study analysed all twin pregnancies delivered at government general hospital kadapa from june 2021 to july 2022. Twin deliveries were analysed in terms of type of twin gestation, parity, mode of delivery, maternal complications and perinatal outcome. **Results:** During the index period, a total of 117 twin deliveries occurred. majority were in the age group of 25 to 30 years. 57% were DCDA twins, 40 % were MCDA twins, 3% were MCMA twins. 55.5% were multiparous remaining 44.5% were primi. 63.2% were delivered by cesarean section and 36.8% were delivered vaginally. Among the maternal complications observed 63% of mothers were anaemic. 28% developed gestational hypertension. 5% had gestational diabetes. 2% had ante partum haemorrhage 18% deliveries were complicated by post partum haemorrhage. 58% were preterm babies, 43% babies were admitted to nicu. Neonatal deaths were about 4%. **Conclusion:** Twin pregnancies constitute an important portion of high-risk pregnancies at any obstetric health care facility. Proper antenatal care with early diagnosis of fetal and maternal complications with thorough intranatal and post-natal vigilance has much to its credit in reducing both maternal and fetal morbidity and mortality

INTRODUCTION

Twin pregnancies are among the major challenges faced by obstetricians globally. Multiple pregnancies account for 3-4% of births globally, though the incidence rate appears to be variable among different parts of the world [1-4]. Increasing the use of assisted reproductive techniques along with large scale use of ovarian hyper stimulation syndrome. And the increasing maternal age at birth are probably the major causative factors for the increasing incidence of this trend.

The reported incidence ranges from 0.01% to 0.07% of all pregnancies. Throughout the world, the prevalence of twin births varies from approximately 2-20/1000 births. Highest burden of multiple pregnancies is seen in sub Saharan Africa, with average twinning rate of 20 per 1000 deliveries as compared to 10 per 1000 deliveries in Europe and around 5-6 per /1000 deliveries in Asia.

Multiple pregnancy constitutes an important portion of high risk pregnancies and is a matter of grave concern to obstetricians and paediatricians owing to maternal and perinatal morbidity and mortality associated to it. Increased maternal morbidity is observed with an increase in the incidence of twin pregnancies. Major maternal complications include increased rates of hypertensive disorders, preeclampsia, gestational diabetes and ante partum and postpartum haemorrhages.

Multiple pregnancies are also associated with poor perinatal outcomes. There is an increased risk of complications in babies like prematurity, Low Birth Weight (LBW), growth restriction and congenital anomalies. In addition these pregnancies are prone to complications exclusive to twinning like twin-twin transfusion syndrome, acardiac twins, conjoint twins. Given these high rates of complications, a greater number of caesarean sections are established in twin pregnancies compared with a singleton gestation.

The literature predicting maternal adverse outcomes among women with multiple gestations is now expanding. Even with this available vast knowledge, there was failure to normalise the complications associated with multiple gestations

compared with singleton pregnancies. A better understanding of perinatal maternal and neonatal complications and outcomes of twin pregnancies will undoubtedly enhance clinical practices. In addition proper identification of patients at higher risk of preterm birth would enable optimisation of the available interventions to reduce the adverse perinatal outcomes. Hence this study was conducted to analyse the maternal complications, perinatal morbidity and mortality, fetomaternal outcome in twin gestation. This analysis may help in dealing with the complications in a better way.

AIMS AND OBJECTIVES

1. To study the fetomaternal outcome of twin pregnancies.
2. To study the prevalence of maternal and perinatal complications in patients with twin gestation at Government general hospital, kadapa.

PATIENTS AND METHODS

This is a retrospective study conducted in the Department of Obstetrics and Gynecology, Government General Hospital, a tertiary teaching hospital in Kadapa, Andhra Pradesh state.

This study analysed twin pregnancies that were delivered in the department of Obstetrics and Gynecology, Government General Hospital, Kadapa from july 2021 to june 2022.

The data for the study was taken from the hospital records that were available. During this index period a total of 117 twin deliveries happened.

Inclusion Criteria:

Patients with clinical or ultrasound diagnosis of twin pregnancies irrespective of their parity and of gestational age >/28 weeks gestational age were included in the study.

Exclusion Criteria:

1. Singleton pregnancy, triplets and other higher order pregnancies.
2. Patients with medical complications like chronic hypertension, overt diabetes, renal and other systemic disorders.

Women with gestational age more than 28 weeks were selected retrospectively from records. Data regarding their age, parity, socioeconomic status, booking status, mode of conception, antenatal checkups, general physical examination ,systemic examination, obstetric examination ,investigations like complete blood picture, blood grouping and typing , serology, fasting and postprondial blood sugar levels, periodic blood pressure measurements, renal function tests, bilirubin levels, liver enzymes, bleeding time, clotting time, ecg, 2D echo, ultrasonography, fetal doppler, cardiocography during labour were collected. From the data available, maternal complications that developed antenatally and during intrapartum and postpartum period like anaemia, preeclampsia, gestational diabetes, polyhydromnios, antepartum and postpartum haemorrhage etc were identified and analysed. Mode of delivery , fetal complications, maternal complications and perinatal outcome were studied.

The perinatal oucome was recorded in terms of gestational age at delivery, mode of delivery (c-section, vaginal delivery-normal vaginal delivery/ instrumental delivery) , APGAR score at 1minute and 5minutes, birthweight (>2500 gms, 2500-1500 gms, <1500 gms) ,dead/ alive/ still birth ,babies getting admitted into SNCU , finaloutcome of the baby (whether the baby got discharged in good condition /expired). Neonatal morbidity were furtherbased on the causes like septicaemia , intrauterine growth restriction, congenital anomalies.

OBSERVATION AND RESULTS:

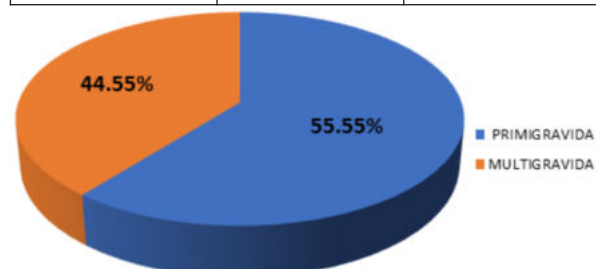
Table 1.

AGE (IN YEARS)	TOTAL	PERCENTAGE
<20 YEARS	5	0.85%
21-25 YEARS	40	34.18%
26-30 YEARS	56	47.86%
31-35 YEARS	13	8.84%
36 & ABOVE	3	2.56%

Among the women included in the study ,most them were in between the age group of 26-30 years. The youngest women included in the study 18 years of age and the oldest being 39 years.

Table 2 : Distribution According To Parity

PARITY	TOTAL	PERCENTAGE
PRIMIGRAVIDA	65	55.55%
MULTIGRAVIDA	42	44.55%



PIE DIAGRAM 1 Showing Distribution Of Women According To Parity

Table 3: Distribution According To Chorionicity:

CHORIONICITY	TOTAL	PERCENTAGE
DCDA	67	57%
MCDA	43	36.7%
MCMA	7	5.98%

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CHORIONICITY	TOTAL	PERCENTAGE
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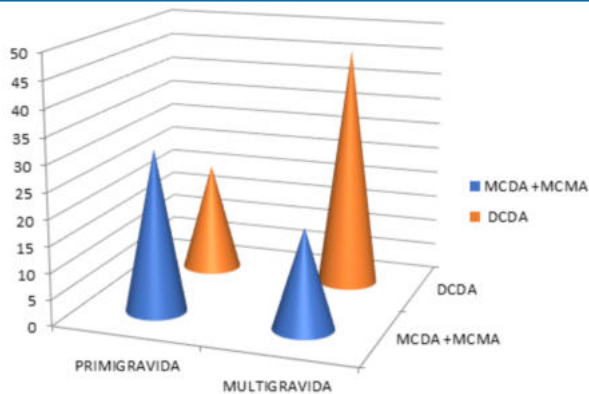
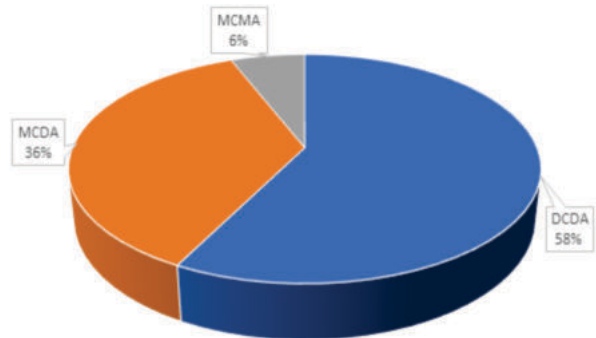


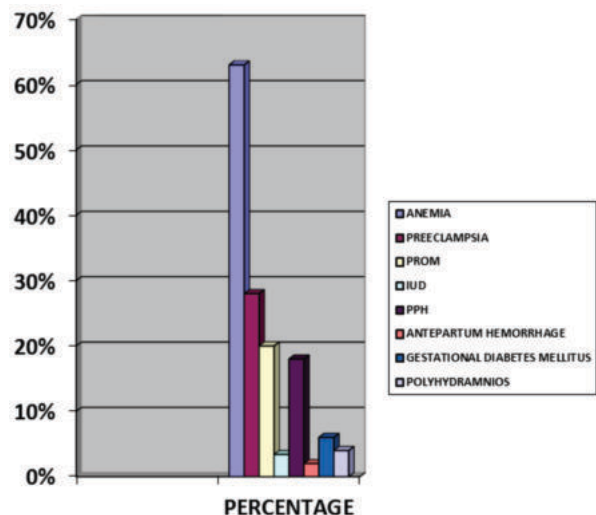
CHART SHOWING Distribution Of Chorionicity Among Primigravida And Multigravida



Among the women studied 58% were DCDA twins ,37% were MCDA twins ,5% were MCMA twins

Table 4: Maternal Complications

MATERNAL COMPLICATIONS	TOTAL	PERCENTAGE
ANEMIA	73	63%
PREECLAMPSIA	32	28%
PROM	23	20%
IUD	4	3.4%
PPH	21	18%
ANTEPARTUM HEMORRHAGE	2	2%
GESTATIONAL DIABETES MELLITUS	6	6%
POLYHYDRAMNIOS	4	4%



Pregnancy related complications in one form or other were present in 74% of the patients. Anemia(63%) being the most common complication followed by preeclampsia (28%) , followed by PROM in 20% patients, followed by PPH (18%) , GDM 5%, polyhydramnios 4% and Antepartum hemorrhage 2%.

Pregnancy was uneventful in 26% of the patients. No maternal death was recorded in this study group.

Table 5:

MODE OF DELIVERY	TOTAL	PERCENTAGE
C SECTIONS	74	63.2%
VAGINAL DELIVERIES	43	36.75%

Cesarean section was the most common mode of delivery (63.2%) than the vaginal route (36.75%). The most common indication of C section was malpresentation of the first twin.

Perinatal complications:

68% of the deliveries were preterm. IUGR was noted among 10% of the patients. IUD in 2% patients.

Neonatal Outcome:

TABLE 6:

NEONATAL OUTCOME	TOTAL	PERCENTAGE
APGAR < 7 at 1 min	156	68%
APGAR > 7 at 10min	74	32%

Among 234 babies neonatal deaths noted were 7 babies (2.9%), IUD 4 babies (2%).

156 babies (68%) had APGAR <7 at 1 minute, 74 babies (32%) had APGAR > 7 at 10 minutes. 114 babies (48.7%) needed NICU admission due to various neonatal complications.

BIRTHWEIGHT:

Table 7:

WEIGHT	PERCENTAGE	FREQUENCY (n=234)
< 1KG	2.5%	6
1 – 1.5 KG	8.5%	20
1.5 – 2 KG	32%	75
2– 2.5 KG	45.5%	106
>2.5 KG	11.5%	27

Among 234 neonates most of the cases had birth weight between 2-2.5kgs (45.5%) followed by 1.5-2 kgs (32%), > 2.5 kgs (11.5%), 1-1.5kgs (8.5%), < 1 kg (2.5%).

DISCUSSION:

Traditionally multiple pregnancies are regarded to be unfavourable, probably due to the poor perinatal outcome, increased maternal mortality and morbidity, long term developmental issues and the expensive treatment involved. In present study, we have analysed fetomaternal outcome in twin pregnancy. Twin pregnancy constitutes an important portion of high risk pregnancies attending any obstetric health care facility. We observed the preterm(68%), which was higher than Hashimoto et al and other series (29%-54%) highest incidence of twins in the age group of 26-35 years(47.86%). The least were above the age of 36 years (2.56%) in our study. The incidence was slightly more among primigravida(55.55%) than multigravida(44.55%) in our study. The incidence of preterm delivery was higher (68%) in the current study as compared to Chowdhury et al (44%). However, the incidence reported by Bangal et al was much higher (88%) . Incidence of twins in this study was (1.81%) which is much higher than the incidence of twins in India which is around 0.9%-1% obtained for various studies. Also, twin pregnancies with complications are referred from many private hospitals for better management. Comparable incidence was seen in studies done by Bangal et al (1.49%) and a study done in Sheikh Muji Medical University, Dhaka 50 The incidence of preterm labor in present study was somewhere in between (68%) that found by two researchers, Bangal et al and Chowdhury et al. The incidence of preterm delivery was high (88%) in the study done by Bangal et al and it was (44%) as reported by Chowdhury et al. In Australia in 2009 (Australia's Mothers and Babies, AIHW, 2011) the overall rate of preterm birth (birth before 37 weeks) amongst women with twins was 52.2%. In our study, Anemia

was found in 73 (63%) twin pregnancies . A very high incidence of anaemia was found by Bangal et al (84%) in 2012. The corresponding figures reported by Chowdhury were 35.8% for anaemia cases. Similar findings were observed by Brown et al (35.5%) of patients as anaemic in twin gestations. The prevalence of anaemia varies from place to place, but in all the above-mentioned studies, incidence was more in twin gestations. The main reason is higher demand in twin gestations resulting in iron, Vitamin B12 and folic acid deficiency anemia. The rate of cesarean section in the delivery of twin pregnancies was 63.24%. This is in corroboration with Bangal et al who reported the caesarean section rate to be 33%.(107) The increase in the use of cesarean section to deliver twin pregnancies may be due to increased incidence of other obstetric indications for cesarean deliveries such as hypertensive disorders, malpresentation, cord prolapse, and premature rupture of membranes as observed in this study. This higher incidence could be due to a higher rate of preterm termination, as we had 28% of pre-eclampsia patients and 4% of both twin IUD. The incidence of having a baby with low birth weight 31% (of less than 2 kg) was ; however, Bangal et al showed an incidence of 82% (108). In this study APH was seen in the incidence of APH (2%). Similar incidence of APH was seen (2%) by Yuel Veronica et al.(112) This was contrary to findings of many researchers who have found significant association between APH and twin pregnancies. There was 1.36 times higher risk of APH in twin pregnancies as compare to singleton group. Olusanya reported 1.2-fold increased risk in twin which was slightly lower than risk observed in present pregnancy and reported by Abasiattai AM and Sultana M et al. The difference in the risk of antepartum haemorrhage between studies could be explained by the difference in risk factors for antepartum haemorrhage between the studies populations. Adesina K T et al, sultana masuda et al also reported similar perinatal mortality rate. Naushaba et al (118) showed that most common cause of neonatal death was low birth weight (32.8%) cases. 52 7.

CONCLUSION :

Twin pregnancy is a great challenge to both obstetricians and pediatricians Complications associated with twin pregnancies can be prevented to some extent by early detection, systematic evaluation and follow up. Timely diagnosis and treatment of nutritional anaemia and pre-eclampsia helps in preventing additional complications. Antenatal care, with increased rest and nutritional supplementation, early detection of foetal and maternal complications together with thorough and postnatal vigilance, has much to its credit in lowering both maternal and foetal dangers. Most of the complications in multiple gestations are preventable. High risk units in the obstetric ward and well developed NICU set up would reduce the maternal, perinatal morbidity and mortality. The knowledge of maternal and fetal complications helps in better surveillance, and in prevention of the morbidity and adverse outcome. Hence the need for better obstetric care, neonatal care ,health services to get a better fruitful outcome.

REFERENCES:

- Bryan, E. (2002). Educating families, before, during and after a multiple birth. *Seminars in Neonatology* 7:241-246.
- Gleicher, N., Campbell, D. P., Chan, C. L., Karande, V., Rao, R., Balin, M. and Pratt, D. (1995). The desire for multiple births in couples with infertility problems contradicts present practice patterns. *Human Reproduction* 10(5): 1079 - 1084.
- Newton, C. and McBride, J. (2005). Single embryo transfer (SET): factors affecting patient attitudes and decision-making. *Fertility and Sterility* 84 (Supplement 1):S3.
- Assuncao RA, Liao AW, Brizot ML, et al., Perinatal outcome of twin pregnancies delivered in a teaching hospital. *Rev Assoc Med Bras* 2010; 56(4):447-451.
- National Statistics. (2006). *Births: 1938-2004, maternities with multiple births.*
- Blondel, B., Kogan, M., Alexander, G., Dattani, N., Kramer, M., Macfarlane, and Wen, S. (2002). The impact of the increasing number of multiple births on the rates of preterm birth and low birthweight: An international study. *American Journal of Public Health* 92(8): 1323-1330.
- Hamilton, B. E., Minino, A. M., Martin, J. A., Kochanek, K. D., Strobino, D. M. and Guyer, B. (2007). *Annual Summary of Vital Statistics: 2005. Pediatrics* 119(2): 345-360.

8. TAMBA. (2007). Recent trends in multiple births in the UK 2005. Retrieved 3.07.2007.
9. National Statistics. (2005). Birth Statistics : Review of the Registrar General on births and patterns of family building in England and Wales 2005 Series FMI no 34. Retrieved on 3.07.2007.
10. Jacques Milliez, M.D. et al. Ethical aspects of multiple Pregnancy. International Journal of Fertility and Sterility. Vol.3, No.1, May-Jun 2009, Pages: 41-46.
11. Chitrit Y, Filidori M, Pons JC, Duyme M and Papiernik E. Perinatal mortality in twin pregnancies: a 3-year analysis in Seine Saint-Denis (France). Eur J Obstet Gynecol Reprod Med 1999;8