

DOI: <http://dx.doi.org/10.18203/2320-1770.ijrcog20162660>

Research Article

## Obstetric outcome of twin pregnancies at tertiary care teaching hospital

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**Received:** 17 June 2016

**Accepted:** 08 July 2016

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### ABSTRACT

**Background:** Twin Pregnancy is considered as a high risk pregnancy. According to Hellin's rule one in about 89 natural pregnancies ends in birth of twins, one in 892 birth is triplet and one in 893 birth is Quadruplets. Maternal obstetric complications includes preterm labour, anaemia, pregnancy induced hypertension, eclampsia, complication of labour and postpartum haemorrhage. Foetal complications include prematurity, low birth weight, perinatal mortality. The perinatal mortality rate associated with twin pregnancy is 4 time greater than with singleton pregnancy.

**Methods:** It was one year observational study from 2011 to 2012. All women admitted to the labour ward with twin pregnancy after 28 weeks gestation were included in this study. Data obtained at the time of delivery included maternal age, parity, gestational age at the time of delivery & foetal weight.

**Results:** A total of 18666 deliveries conducted, there were 206 cases of twin deliveries constituting incidence of 1.1% (1:90). Majority of cases were 20-25 year age group (58%). Mean age of cases was 24.94 year. Majority of cases were primigravidas (45%). Majority of women were unbooked (62%). Only 28% were registered, 43% were presented with preterm labour, PIH noted in 18%, anemia in 15% and APH in 3%. Most common cause of neonatal morbidity was preterm birth (41.5%). Perinatal mortality was maximum 100% in babies with birth weight < 1000gm & 76.92% in 1000-1499gm weight. Most common cause of neonatal death was very low birth weight.

**Conclusions:** Twin pregnancies are associated with increasing with morbidity of mother and foetus. Most of babies head respiratory distress or had developed neonatal sepsis. These death can be prevented by averting preterm birth by combined measures like good rest, cervical encirclage, administration of steroid in preterm labour, by institutional delivery and provision of level 3 neonatal care.

**Keywords:** Twin pregnancy, Maternal outcome, Perinatal outcome

### INTRODUCTION

Accordingly to Hellin's rule, mathematical frequency of multiple birth in twin is 1 in 80 pregnancies, Triplets 1 in 80<sup>2</sup>, quadruplets 1 in 80 so on.<sup>1-3</sup> Twin births is by far the most common multiple births. The cause of twinning is not known. The frequency of monozygotic twins remains constant throughout the globe and probably related to maternal environment. It is the wide variation in the prevalence of binovular twins which is responsible for fluctuation in the overall incidence of twins in different population. The prevalence of dizygotic twins is related to, race, hereditary, advancing age of mother, parity,

personal history, ovulation inducing drugs eg, gonadotropin 20\_40% and clomiphene citrate 5\_6% oral contraceptive.<sup>3-5</sup> Compared to singleton pregnancies perinatal mortality, morbidity and longterm neuro developmental disability are increased 5-10 fold in twin pregnancies.

### METHODS

This prospective study was conducted in 100 patients with twin pregnancy in Department of Obstetrics & Gynaecology, Sardar Patel Medical College, P.B.M. and Associated Group of Hospitals Bikaner 2011 to 2012. The

total number of cases included were 100. Women with twin pregnancy completing 28 weeks of gestations with or without medical and obstetric complications were included in the study. However, twin pregnancy discharged after taking conservative management was excluded. Individual patient parameters like age, parity, duration of gestation physical examination mode of delivery, antepartum, intrapartum, and postpartum complications were tabulated. Neonatal morbidity and mortality in the first week were also noted results of routine and specialized investigations and ultrasonography were recorded. Data thus obtained was analyzed and results studied.

## RESULTS

**Table 1: Distribution of cases according to age (n=100).**

Age ( Years)	No	%
<20	3	3.0
20-25	58	58.0
26-30	31	31.0
31-35	7	7.0
>35	1	1.0
Total	100	100.00

This study was done from July 2011 to December 2012 in “Department of Obstetrics and Gynaecology P.B.M and Associated group of Hospitals, attached to Sardar Patel Medical College, a tertiary care hospital in Bikaner”. During this duration out of total 18666 deliveries, there were 206 cases of twin pregnancies giving an incidence of 1.102% (1:90) In this study, majority of the cases were of relatively younger age. 58% of the women in our study belonged to the age group of 20-25 years. The mean maternal age was 24.94±3.77 years (Table 1).

In our study out of 100, 62 cases who were admitted in labour as emergency cases, while 28% of cases were registered. In our study 62 cases were emergency in which 24 (38.2%) were perinatal deaths while among registered cases perinatal death rate was only 18.82%. In our study incidence of anaemia was 80% and maximum cases (70 %) had Hb 7-9 gm% , 20% cases had Hb >9gm% and and only 10% had Hb < 7 gm%. In this study, 69.56% of LSCS were done for malpresentations followed by 13.04% cases for PIH with failed induction, 4.35% each for placenta previa and abruptio placentae, 4.35% for NPOL and 4.35% for fetal distress (Table 2).

In our study antenatal complications were encountered in 82% of cases, the most common being preterm labour in 43% followed by PIH in 18%, anemia in 15%, abruptio placenta in 2%, placenta previa in 1%, polyhydramnios in 2%, and antepartum eclampsia in 1% cases. Only 18% of cases had no complications during their antenatal period, (Table 3). In our study, intrapartum complications occurred in 41% of cases with the most common

complication being malpresentation in 34% cases. Non-progress of labour occurred in 3%, hand prolapse in 2% and cord presentation in 2% cases.

**Table 2: Various Indications for LSCS.**

Indication	No.	%
Malpresentation	16	69.56
PIH with failed induction	3	13.04
NPOL	1	4.35
Fetal distress	1	4.35
Placenta previa	1	4.35
Abruptio placentae	1	4.35
Total	23	100.00

**Table 3: Distribution of cases according to antepartum complications.**

Antepartum complications	No.	%
Preterm Labour	43	43.0
Pregnancy induced hypertension	18	18.0
Anemia	15	15.0
Placental abruption	2	2.0
Placenta Previa	1	1.0
Polyhydramnios	2	2.00
Antepartum eclampsia	1	1.00
None	18	18.00

**Table 4: Distribution of cases according to neonatal morbidity and mortality twins (n=200).**

	No.	%
Preterm birth	83	41.5
Discordant growth	40	20
Neonatal death	22	11
Intrauterine death or one of or more fetus	15	7.50
Birth asphyxia	13	6.50
Hypothermia	13	6.50
Infections	6	3.0
Neonatal hyperbilirubinemia	4	2.0
Twin-twin transfusion syndrome	2	1.0
Fetal anomalies	2	1.0

In our study, the most common postpartum complication was atonic PPH in 5% cases. All cases of atonic PPH were managed by IV oxytocin, methergin IM prostaglandins and replacement of blood loss by urgent blood transfusion. Postpartum eclampsia was present in 2% cases; there was one maternal death in this series. The risk of post-partum hemorrhage is minimized in our institution by routine administration of 5-10 U oxytocin, fundal massage and controlled cord traction method in delivery of placenta. It is a sound practice to continue the

oxytocin drip for at least one hour, following the delivery of second baby.

In our study most common cause of neonatal morbidity was preterm birth in 41.50% babies followed by discordant growth in 20.0%, birth asphyxia in 6.50% and hypothermia in 6.50%. Intrauterine death of one or both fetus was seen in 7.50 %, twin-twin transfusion syndrome occurred in 1.0%, neonatal hyperbilirubinemia in 2.0% and infections in 3.0% babies. Fetal anomaly as anencephaly and meningomyelocele was seen in 2 (1.0%) new-borns. Neonatal death occurred in 22 (11.0%) twin new-born (Table 4). In our study most of the new-born's had birth weight 2000-2499 gms (33% of 1st baby and 39% of 2nd baby). 23% of 1st babies and 20% of 2nd babies were > 2500 gms birth weight. Birth weight was 1500-1999 gms in 28% of 1st babies, and 24% of 2nd babies. 16% of 1st and 17% of 2nd babies were below 1500 gms. Only 3% of 1st babies and 4% of 2nd babies were below 1000 gms. Mean birth weight was  $1.93 \pm 0.44$  kg (Table 5).

**Table 5: Distribution of cases according to weight of the New born N= (200).**

Weight (gms)	1 <sup>st</sup> Baby	2 <sup>nd</sup> Baby
<1000	3	4
1000-1499	13	13
1500-1999	28	24
2000-2499	33	39
>2500	23	20
Total	100	100

## DISCUSSION

Twin pregnancy constitutes a important portion of high risk pregnancies attending any obstetric health care facility. In our study 58% of the women belongs to 20-25 years of age group. Most of the cases were primigravida. This was comparable to study done by Yuel Veronica Irene et al Mean age of the cases was  $24.94 \pm 3.77$  year.<sup>6</sup> In this study incidence of anaemia was 80%. Maximum cases (70%) had haemoglobin  $7-9$  gm, 20% cases had hb >9 gm had hb <7 gm% hb seen in only 10% cases. This was comparable by study done by naushba et al done, in which incidence of anaemia was 65%.<sup>7</sup> Most common Indication of LSCS was malpresentation in (69.56%) which was comparable by study done by yuel veronica Irene and kaur vaneetin in 2007 who found malpresentation is commonest indication of caesarean section in 71% of cases. Antepartum complications occurred in 82% of the cases, the most common being preterm labour (43%) followed by PIH (18%), anemia (15%) and APH (3%). Intrapartum complications occurred in 41% cases. Most common complication was malpresentation in 34% followed by NPOL in 3%. Postpartum complication occurred in 10% of cases, most common complication being atonic PPH in 5% and postpartum eclampsia in 2%. This was comparable to study done by Irene YV and

Kaur V who found preterm labour in 57.5% cases, PIH in 18% cases, anemia in 28%, abruptio placentae in 1%, placenta previa in 1%, gestational diabetes in 0.5% and chronic hypertension in 0.5%. In study done by R Rani, S Kharoon et al most common antenatal complication was anemia in 60-96% cases.<sup>8</sup> The reason for such a high incidence of anemia in their study was because most of their cases (2/3<sup>rd</sup>) were unbooked and thus did not receive any antenatal care. In their study, 45.45% cases had preterm labour, PIH was present in 42.25%, hydramnios in 34.23%, abruption in 10.16% and placenta previa in 5.34% cases). In study done by Rani R, Kharoon S et al. PROM was seen in 13.9% cases, in coordinate uterine action in 5.35%, hypotonic uterine inertia in 7.48% and cord prolapse in 2.14%. Interlocking of twins in a rare malpresentation occurring one time per every 1000 twins and per every 50,000 births. The perinatal mortality of this complication is high, 62-84%, probably because most cases are not recognized until late in the expulsive phase of labour. Among twins, most common cause of neonatal morbidity was preterm birth in 41.5% followed by discordant growth in 20% and birth asphyxia in 6.50%. Perinatal mortality was maximum (100%) in babies with birth weight <1000 gms and 76.92% in babies birth weight 1000-1499 gms. In our study most of the new-born had birth weight between 2000-2499 gms (33% of 1<sup>st</sup> baby and 39% of 2<sup>nd</sup> babies). > 2500 gms birth weight was found in 23% of 1<sup>st</sup> babies and 20% of 2<sup>nd</sup> babies, birth weight was 1500-1999 gms in 28% of 1st babies and 24% of 2nd babies. Birth weights 1000-1499 gms in 13% of 1<sup>st</sup> babies and 13% of 2nd babies. Birth weight was found < 1000 gms in 3% of 1<sup>st</sup> babies and 4% of 2<sup>nd</sup> babies (Table 5). Most of the newborns had birth weight of 2000-2499 gm with the mean birth weight being  $1.93 \pm 0.44$  kg. This was compared with study done by Pandole A, Swamy MSC et al.<sup>9</sup> who found the most common birth weight was between 1550-2000 gms seen in 35.63% of 1st babies and 39.39% of 2nd babies. Birth weight of 2050-2500 gms was found in 25.53% of 1<sup>st</sup> babies and 28.72% of 2<sup>nd</sup> babies while birth weight > 2500 gms was found in only 12.76% of 1st babies and 5.15% of 2nd babies. Birth weight 1050-1500 gms was found in 20.2% of 1st babies and 20.74% of 2nd babies. Birth weight < 1000 gms was seen in 5.85% of 1st babies and 5.31 % of 2nd babies. Prematurity is leading cause of perinatal mortality as was also revealed by Ziadeh SZ.<sup>10</sup>

## CONCLUSION

Twin pregnancy remains a continuing perinatal challenge. Complications associated with twin pregnancies definitely more than singleton pregnancies. All twin pregnancies should have a mandatory hospital delivery. Early diagnosis, adequate antenatal, intranatal, postpartum care is necessary to improve the outcome. Complications associated with twin pregnancies cannot prevented but can be detected early and controlled adequately by proper and prompt management.

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: The study was approved by the Institutional Ethics Committee*

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**Cite this article as:** Meena S, Yadav K, Meena R. Obstetric outcome of twin pregnancies at tertiary care teaching hospital. *Int J Reprod Contracept Obstet Gynecol* 2016;5:2752-5.