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A Retrospective Study: Twin Pregnancy at Tertiary Care Centre, Maternal and Perinatal Outcome

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Abstract

Background:The objective of present study was to study the maternal and perinatal outcome in twin pregnancy in a tertiary care canter.Methods: Retrospective analytical review of all twin deliveries at J.K Lon hospital, Govt. medical college Kota, over a period of 1 year between January 2020 and December 2020.There were 60 twin deliveries. Maternal details, antenatal complications and fetal outcome were analysed. Results:The incidence of twin pregnancy was 1.4

Index terms— twin pregnancy, maternal outcome, perinatal outcome, preterm labour.

Twin pregnancy imposes greater demand on maternal physiological system. There is an increase in occurrence of many complications like hypertensive disorders, anaemia, gestational diabetes mellitus (GDM), preterm labour, preterm premature rupture of membranes (PPROM), and placental abruption. It is also responsible for repeated antenatal admissions, longer hospital stay, and blood transfusions. It is associated with increase in operative vaginal or caesarean delivery, post-partum haemorrhage and hysterectomy. It eventually contributes to the three major causes of maternal mortality: post-partum haemorrhage, venous thromboembolism and hypertensive disorders. 4 II.

1 Methods

This is a retrospective study, which was conducted at J.K.Lone hospital, Govt. Medical College Kota. 60women with twin pregnancies admitted to the labour room between January 2020 and December 2020 were included in the study. Ethical approval was taken from ethical committee before commencement of the study. Variable patient parameters like age, parity, and duration of gestation, physical examination, mode of delivery, antepartum, intrapartum and postpartum complications were collected. Data was retrieved from patient's case-notes and supplemented by information from the labour ward, postnatal ward, operation theatre and medical record department.

Inclusion criteria included all twin gestations admitted to the labour room between 28 to 38 weeks gestation and both twins alive at time of randomization.

Exclusion criteria were lethal fetal anomaly of either of the fetus. Women with pregnancies less than 28 weeks of gestation were excluded from the study.

2 III.

3 Results

Out of the total 4285 antenatal patients delivered during the period of 1 year from January 2020 to December 2020 in our hospital, 61 patients presented with multiple pregnancy. Of these, one had triplet pregnancy and was excluded from our study and rest 60 were cases of twin pregnancy. The incidence of twin pregnancy in our study was 1.4%. The distribution of cases in relation to maternal sociodemographic profile is shown in table 1. Maximum numbers of women (70%) Introduction ultiple gestation is considered a high-risk pregnancy. Currently, multiple gestations constitute up to 3% of all pregnancies. 1 There has been an increase in incidence of twins due to multiple reasons such as a rise in the number of women conceiving at an advanced age and in increase in use of assisted reproductive techniques. 2 Twin pregnancy is associated with increased maternal and perinatal

morbidity and mortality as well as healthcare costs. 3 were in their peak fertile age i.e., in between 20-and 29years age. The twins were seen 63.3% among the multi and 36.6% primi gravidas. 68.3% women had registered them for antenatal care and were attending antenatal clinic regularly and 31.6% who were not regular on the antenatal check u. Only 83.3% of women delivered before 37 completed weeks of pregnancy (Table 1). With respect to chorionicity, 60% of women were dichorionic. Fourteen percent were monochorionic -diamniotic and 6% patients were monochorionicmonoamniotic. Chorionicity was unknown in 20% cases. Vertex-vertex (Vx-Vx) fetal presentation was most common presentation at delivery (52% patients) followed by Breech -vertex (B-Vx) in 18% women.

23.3% women delivered by vaginal route; The caesarean section rate was 76.6%. 31.6% of the caesarean sections were performed electively for fetal malpresentations. Emergency sections were performed for fetal distress, antepartum haemorrhage, cord complications, failure of progress of labour and for second of the twins. Anaemia was noted in (60%). Pregnancy induced hypertension was seen in 35% of women (Table 2). Low birth weight (LBW) in our study was defined as birth weight of <2.5 kg and 85% of the new-borns were LBW. APGAR score of <7 at 1 min was seen in 63.3 % new-borns. Apgar score <7 at 10 min was reported in 66.6% new-borns. Prematurity and low birth weight predisposed majority of early neonatal deaths. These small babies suffered from respiratory distress (42 cases), intrauterine growth restriction (16cases), septicaemia (4 cases), hyper-bilirubinaemia (12 cases) and NICU admission (72 cases). Perinatal mortality in our study was 15%.(Table 3).

4 Discussion

Twin pregnancies are high risk pregnancies requiring special care and multidisciplinary approach towards their management. The incidence of twin pregnancy in our study was1.4%, the possible reasons for the rise in number are referral to our hospital for better neonatal care in anticipation of complications in neonates. It was observed that these women with twin pregnancies were regular in antenatal visits irrespective of distance from home or parity. It was also observed that incidence of anaemia, hyperemesis, gestational diabetes and pregnancy induced hypertension in twin pregnancy was significantly higher as compared to singleton pregnancies. Majority of the women in present study (70%) were aged between 20 -29 years. This is consistent to a study by Spellacy et al where 55% were aged between 20 -29 years. 5 Parity distribution of our study showed 63.3 % patients as multipara which is consistent to report by Spellacy et al where 84.2% patients were multipara.

Conservative management with tocolytic drugs and steroid were administered prophylactically for prevention of preterm labour in 70% twin pregnancies. In the study many women were found to have had premature onset of labour resulting in premature babies. This observation is seen to have occurred in spite of precautions like adequate rest, prophylactic tocolytic administration and cerclage.

The present study was compared to a study which was done among all twin pregnancies admitted in Institute of Post Graduate Medicine and Research, Dhaka now Bangabandhu Sheikh Mujib Medical University (booked and unbooked cases were considered for the study). 6 Among primis and multigravidas the incidence of twins was 36.6% & 63.3%.

In the Chaudhary study it was reported that twins were more common in multis (64.2%) as compared to primis (35.8%). 6 Chaudhary et al reports an incidence of 44% preterm delivery among twin pregnancies. 6 The present study shows an incidence of 83.3%. Placentation was determined by antenatal ultrasonography and inspection of placenta and membranes after birth. Dichorionic placentation was seen in majority (60%) in our study, which is comparable with Erdemoglu et al (69.3%) and Panwala et al (63.8%). 7,8 Vertex -vertex (Vx-Vx) presentation at delivery was most common fetal presentation in present study (52%) and was to be consistent with another study by Chowdhury et al (47.5%) and Panwala et al (51.4%). 8,9 Most frequent mode of delivery in our study was by lower segment caesarean section (76.6%), consistent to studies by Chowdhury and Sultana (49.1% and 56% respectively). 9,10 Preterm labour was found to be the most common maternal complication in our study seen in 70% cases. Preterm delivery rate in our study was 70% and we found a high preterm caesarean section rate of 20% in present study. This finding is in contrast to previous studies by Chowdhury, Sultana and Papicrnik where preterm delivery rates were 41.5%, 44% and 50.7% respectively. 9,10,11 Higher preterm delivery rate in present study could be attributed to higher incidence of associated obstetric and /or medical co-morbidities in our patients, necessitating early delivery. Anaemia was the second most common maternal complication in our study reported in 60% patients in present study whereas the corresponding figures reported by Chowdhury and Brown et al were 35.8% and 35.5% for anaemia. 9,12 Hence authors reported higher incidence of anaemia in our study. However, a much higher incidence of anaemia was found by Bangal et al (84%). 13 Among the women with twin gestation under study it was found that 36 (6.%) had anaemia, 19 (31.6%) were diagnosed with hypertension and 4 (6.6%) had hydramnios as compared to 35.8%, 22.6% and 5.7%respectively as reported by Chaudhary et al. 6 The incidence of APH and PROM were 2 (3.3%) and 8(13.3%) whereas Chaudhary reports an incidence 5.7% of APH and 3.8% of PROM. 6 Birth hypoxia was reported in 35% of neonates. The incidence of birth asphyxia was much higher among second coming twins (55.5%) than first coming twins (24.5%). Hypertensive disorders (PIH/ Pre-eclampsia/ Eclampsia) were reported in 35% patients in present study. This is higher in comparison to that observed in studies by Chowdhury et al and by Bangal et al where they were observed in 22.6% and 18% cases respectively. 9,13 Low birth weight and prematurity are known leading causes of perinatal morbidity and

mortality. The incidence of birth hypoxia, perinatal deaths and NICU requirement increases as gestational age at delivery decreases. The same was noted in present study.

V.

5 Conclusions

Twin pregnancies are high risk pregnancies with more obstetrical complications compared to singleton pregnancies. Preterm delivery is the most common obstetric complication and rate of caesarean section are more as compared to normal vaginal delivery. Managing twin pregnancy is still a big challenge to the obstetrician. The use of antenatal care services, identification and anticipation of complications, intrapartum management and good NICU facilities will help to improve maternal and neonatal outcome in twin pregnancies.

6 Conflict of interest: None declared

1

Maternal profile	Number	Percentage
Age distribution		
< 20 yrs.	4	6.6%
20-29 yrs.	42	70%
30-35 yrs.	8	13.3%
> 35 yrs.	6	10%
Parity distribution		
Primi	22	36.6%
Multi	38	63.3%
Registration status		
Booked	41	68.3%
Unbooked	19	31.6%
Gestational age		
< 28 wks.	3	5%
28-32 wks.	8	13.3%
32-37 wks.	39	65%
> 37 wks.	10	16.6%

Figure 1: Table 1 :

2

Maternal complication	Number	Percentage
Preterm labour	45	70%
HDOP	21	35%
Malpresentation	19	31.6%
Anaemia	36	60%
Hydramnios	4	6.6%
APH	2	3.3%
PROM	8	13.3%
GDM	1	1.6%
Caesarean section	46	76.6%
PPH	5	8.3%

Figure 2: Table 2 :

3

Fatal outcome	Number	Percentage
Birth weight		
$<$ 1 kg	6	5%
1-1.5 kg	19	15.8%
1.6-2.5 kg	77	64.1%
$>$ 2.5 kg	18	15%
NICU Admission	72	60%
RDS	42	35%
IUGR	16	13.3%
hyper-bilirubinaemia	12	10%
Septicaemia	4	3.3%
Perinatal mortality	18	15%
APGAR $<$ 7 at 1 min	76	63.3%
APGAR $>$ 7 at 10 min	80	66.6%
IV.		

Figure 3: Table 3 :

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