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RESEARCH ARTICLE

MATERNAL AND PERINATAL OUTCOME OF TWIN PREGNANCY: A PROSPECTIVE STUDY IN TERTIARY HOSPITAL IN KASHMIR

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ABSTRACT

Background: Multiple pregnancy is associated with increased maternal and fetal risk, therefore, warrants special attention. This study was conducted to evaluate the pregnancy complications and perinatal outcome in twin pregnancy.
Methods: This observational study included 670 women with twin pregnancy achieving a gestational age of 28 weeks and above. Main outcome measures were maternal complications (i.e., anemia, PIH, preterm labour, PPH etc.), perinatal morbidity and mortality. Data was analyzed using SPSS-16.
Results: The incidence of twin gestation observed was17.99 per 1000 births with maximum incidence of twining in the age group 26-35 years and in multigravida. Maternal and neonatal complications were remarkably higher with twin gestation. Maternal complications included anemia (41.94%), preterm labour (35.97%), hypertension (30%), PROM (23.88%), hyperemisis gravidarum (6.26%), gestational diabetes (10%), APH (6.26%) and PPH (11.94%). LSCS was done for both twins in 201 (30%) cases and for 2nd twins in 28 cases in view of placental prolapse and fetal distress. Most of the twins (75%) were delivered before 37 weeks and majority of newborn (>90%) had low birth weight. 362 (27.01%) babies required admission to NICU and major reasons for NICU admissions were prematurity, birth asphyxia, and septicemia. There were 84 still births and 43 early neonatal deaths.
Conclusion: Twin pregnancy is associated with increasing risk to mother and foetus, therefore, all twin pregnancies should have a mandatory hospital delivery. Early diagnosis, adequate antenatal, intra-natal and postnatal cares are necessary to improve outcome.

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INTRODUCTION

Multiple gestations or multiple pregnancies occur when two or more fetuses are conceived at the same time in the same woman, it can either be a monozygotic or dizygotic pregnancy (Enid Simon Chiwanga *et al*., 2014). The risk factors for multiple gestation births have been well documented. These include family history of twins, heredity, advanced age, serum oestradiol concentration, race, and use of fertility treatment (Tur *et al*., 2001; Dickey *et al*., 2001). Multiple births are much more common today than they were in the past. This dramatic rise in the incidence of multiple gestation, especially in higher order multiple gestation, has been attributed to the increase in the use of ovulation inducing agents, use of assisted reproductive technologies, and a shift toward bearing children at older maternal ages, when multiple gestation are more likely to occur naturally (Chittacharoen, 2006; American society of reproductive medicine, 2004). Although twins occur in approximately one in 80 pregnancies, they account for 12.2% of preterm births and 15.4% of neonatal deaths (Sultana *et al*., 2011). About half of twins are born with a birth weight of less than 2,500 g (5.5 lb) (HFEA 2006). However the chances of survival for very small twin babies are higher than for very small single babies (Cnattingius *et al*., 1998). Twin to twin transfusion syndrome, is a rare but potentially serious complication in identical twins these days, survival rates are much higher, thanks to early detection and also to laser treatment, which is performed in a few hospitals specialising in this procedure (NICE 2006). Multiple pregnancy puts mother at risk of miscarriage, pre-eclampsia, APH, PPH, iron and folic acid deficiency anaemia, polyhydramnios, preterm labour, PROM and increased rate of caesarean section. Pre-eclampsia is 2–3 times more common in multiple than singleton pregnancy and likely to be more severe (Day *et al*., 2005). Every woman with a high order multiple pregnancy should be counseled about the risk of continuing the pregnancy, the likely management and the offer of multifetal pregnancy reduction (MFPR). Higher order multiple pregnancies should be managed in tertiary perinatal centres with a fetal medicine service.

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MATERIALS AND METHODS

All women admitted to the labour ward with twin pregnancy after 28 weeks gestation were included in the study. Women with gestational age less than 28 weeks were excluded from the study. This observational study extended over a period of one year from May 2014 to May 2015. Demographic information included maternal age, parity, history of infertility treatment, family history of twin pregnancy, any previous twin pregnancy, gestational age at time of presentation, booked or un-booked, time of last steroid injection given, antenatal admissions, and antenatal complication. A general physical examination was done to note the associated complications like anemia, hypertension, and jaundice. Per abdominal examination was done to note the presenting part, lie, position, size and its relation to birth canal and FHS were noted. Pelvic examination was done to note PROM and antepartum hemorrhage and to note the stage of labour, presentation, status of the membranes and the adequacy of pelvis. Neonatal outcome included gestational age at birth, birth weight, stillbirth, death prior to discharge, live born, discharged alive, presence of respiratory distress syndrome (RDS), need of mechanical ventilation, APGAR score, length of hospital stay, and maternal outcome of all women including use of induction of labour, mode of birth, primary or major postpartum hemorrhage and postpartum pyrexia. Main outcome measures were maternal complication (i.e., anemia, preterm labour, pregnancy induced hypertension, postpartum hemorrhage etc.), perinatal morbidity and mortality. Data was analyzed using SPSS-16.

RESULTS

There were 37,239 deliveries in our hospital during the study period of 1 year and there were 670 twin deliveries encountered with an incidence of 17.99 per 1000 births (1.79%). Maximum incidence (68%) of twining was in the age group 26-35 years with mean age of 33.42 years. 188 (28%) cases were primigravida and 482 (72%) cases were multigravida. The mean gestation age at delivary was 35.29 weeks. With most twins delivered before 37 weeks and only 25% of twins were delivered at >37 weeks. 77% 0f patients had attended antenatal care and rest were referred from peripheral centers. In our study, most common complication seen in twin pregnancy was anemia (41.94%) and preterm labour (35.97%) followed by hypertension (30%) and PROM (23.88%). Other complications like hyperemisis gravidarum, gestational diabetes APH and PPH were seen in 6.26%, 10%, 6.26%, 9.1% and 11.94%, respectively.

Table 1. Maternal Demographic characteristics

Characteristic		Number	Percentage
Age (Years)	<20	10	1.49
	20-25	121	18.05
	26-30	201	30
	31-35	254	37.91
	>35	84	12.53
	Mean(SD)++	35.29 ±4.28	
Parity	Primipara	188	28.05
	Multipara	482	71.94
Gestation Age (weeks)	28-33	234	34.92
	34-37	268	40
	>37	168	25.07
	Mean(SD)++	35.29±2.91	
Antenatal care		516	77.01

Table 2. Maternal outcomes

Outcomes	Number	Percentage
Hyperemisis gravidarum	42	6.26
Anemia	281	41.94
Hypertension (PIH & Preeclampsia)	201	30
UTI	67	10
Gestational diabetes	42	6.26
Preterm labour	241	35.97
PROM	160	23.88
Antepartum hemorrhage	61	9.1
Postpartum hemorrhage	80	11.94

Table 3. Mode of delivery

Mode of delivery	1st twin Number (percentage)	2nd twin Number (percentage)
Spontaneous	415 (61.94%)	361(53.88%)
Assisted	54(8.05%)	80(11.94%)
LSCS	201(30%)	229(34.17%)
Total	670(100%)	670(100%)

Table 4. Perinatal and neonatal outcome

Perinatal and neonatal outcome	Number	Percentage
Birth weight		
<1000gm (required admission)	42	3.13
1000-1500gm	402	30
1500-2500gm	804	60
>2500gm	92	6.86
Birth Asphyxia	240	17.91
Septicemia	68	5.07
Still birth	84	6.26
NICU admission	362	27.01
Early neonatal death	43	3.2

Majority of cases showed spontaneous onset of labour. LSCS was done for both twins in 201 (30%) cases and for 2nd twins in 28 cases in view of placental prolapsed and fetal distress. In our study of 670 twin deliveries (1340 babies), 42 newborn (3.13%) had birth weight <1000 gm and 402 (30%) newborn had birth weight 1000-1500 gm. Majority of newborn (60%) had birth weight 1500-2500 gm and most low birth weight was due to prematurity. Only 92 (6.86%) had birth weight above 2500 gm. 362 (27.01%) babies required admission to NICU and major reasons for NICU admissions were prematurity, birth asphyxia, and septicemia. There were 84 still births and 43 early neonatal deaths.

DISCUSSION

Twin gestation is a high risk pregnancy with unique antepartum and intrapartum as well as fetal complications. Over the past years rate of twin births have increased, in general due to innovations in infertility treatment. Risks fall on fetuses in terms of morbidity and mortality primarily relating to the twins being born with preterm and low birth weight compared to singletons. (Hanumaiah *et al*., 2013) The incidence of twin pregnancy in this study was 1.79%. Similar high incidence was noted by Indira Hanumaiah (Hanumaiah *et al*., 2013) (2.03%) and Naushaba Rizwan (2010) (1.44%). Maximum incidence of twining was in the age group 26-35 years. Similarly, higher incidence (58%) of twining was noted in same age group in previous study from our hospital. (Rather *et al*., 2014) Mean gestational age at birth was 35.29 weeks. Similar observation was noted in study done in United States, mean gestational age for twins was 35.8 weeks. (Shinwell, 2005) In our study, most common complications seen in twin pregnancy was anemia (41.94%) and preterm labour (35.97%) followed by

hypertension (30%), PROM (23.88%), hyperemisis gravidarum, gestational diabetes APH and PPH. Our observations were in concordance with observations made by Naushaba Rizwan (2010) and Shahela Khatiq (Kahn *et al*., 2003). Majority of cases showed spontaneous onset of labour. LSCS was done for both twins in 201 (30%) cases and for 2nd twins in 28 cases in view of placental prolapsed and fetal distress. In study by Indira Hanumaiah *et al*. (2013) LSCS was done for both twis in 23 (25%) cases and for second twin in 4 cases. Higher incidence of cesarean section in our study is due low threshold for cesarean section in our institute, as very high emergency admission makes monitoring every patient a difficult task. In our study 3.13% newborn had birth weight <1000 gm and 30% newborn had birth weight 1000-1500 gm. Majority of newborn (60%) had birth weight 1500-2500 gm and most low birth weight was due to prematurity. Only 92 (6.86%) had birth weight above 2500 gm. Our results were in concordance with studies done by Masuda Sultan (2011) and Indira Hanumaiah[11]. In study by Masuda Sultan (2011) 60% newborn had birth weight 1500-2500 gm, 27% newborn had birth weight 1000-1500 gm and 5% newborn had birth weight <1000 gm. Majority (70%) newborn had birth weight 1500-2500 gm in study by Indira Hanumaiah (2013) and 19% newborn had birth weight <1500gm. 27% babies required admission to NICU and major reasons for NICU admissions were prematurity, birth asphyxia, and septicemia. There were 84 still births and 49 early neonatal deaths. Masuda Sultan (2011) reported NICU admission of 19.56% and perinatal mortality of 15.21%. Higher NICU admission in our study was because of lower mean birth weight.

Conclusion

Twin pregnancy is associated with increasing risk to mother and foetus; therefore, all twin pregnancies should have a mandatory hospital delivery. Early diagnosis, adequate antenatal, intra-natal and postnatal cares are necessary to improve outcome.

REFERENCES

American society of reproductive medicine. Multiple pregnancy and birth, considering infertility treatment: twin, triplets and higher order multiples; 2004.

Chittacharoen. 2006. A pregnancy outcome of twin pregnancy in Ramathibodi hospital. *Journal of Med Assoc Thai*., 89:576-80.

Cnattingius S, Haglund B, Kramer MS. 1998. Differences in late fetal death rates in association with determinants of small for gestational age fetuses: population based cohort study. *British Med Jour*., 316(7143):1483-7.

Day MC, Barton JR, O'Brien JM, Istwan NB, Sibai BM. 2005. The effect of fetal number on development of hypertensive conditions of pregnancy. *Obstet Gynecol*., 106:927-31.

Dickey RP, Taylor SN, Lu PY, Sarlor BM, Rye PH, Pyrzak R. 2001. Relation of follicle numbers and estradiol levels to multiple implantation in 3608 intrauterine insemination cycles. *Fertil steril*., 75(1):69-78.

Enid Simon Chiwanga, Gileard Massenga, Pendo Mlay, Joseph Obure, Micheal Johnson Mahande. 2014. Maternal outcome in multiple versus singleton pregnancies in Northern Tanzania: A registry-based case control study. *Asian Pacific Journal of Reproduction*, 3(1):46-52.

Hanumaiah I, Shivanand DR, Kumar GV, Hoolageri MS. 2013. Perinatal outcome of twin pregnancies at a tertiary care centre, south India. *Int Jour Biol Med Res*., 4(1):2683-2685.

HFEA. Multiple pregnancies and birth; considering the risks. London: Human Fertilisation and Embriology Authority 2006.

Kahn B, Lumey LH, Zybert PA, Lorenz JM, *et al*. 2003. Prospective risk of fetal death in singleton, twin and triple gestations: implications for practice. *Obstet Gynecol*., 102:685-92.

NICE. Intrauterine laser ablation of placental vessels for the treatment of twin to twin transfusion syndrome-information for public. National Institute for Health and Clinical Excellence (NICE) 2006.

Rather SY, Habib R, Sharma P. 2014. Studying pregnancy outcome in twin gestation in developing world. IOSR *Journal of Dental and Medical Sciences*, 13 (5):62-65.

Rizwan N, Abasi RM, Mugal R. 2010. Maternal morbidity and perinatal outcome with twin pregnancy. *J Ayub Med Coll Abbotabad*., 22(2):105-07.

Shinwell ES. 2005. Neonatal morbidity of very low birth weight infants from multiple pregnancies. *Obstet Gynecol Clin North Am*., 32:29-38.

Sultana M, Khatun S, Ara R, Saha AK, Akhter P, Shah ABS. 2011. Maternal and perinatal outcome of twin pregnancy in a tertiary hospital. *Ibrahim Card Med Jour*, 1(2): 35-39.

Tur R, Barri PN, Coroleu B, Buxaderas R, Martinez F, Balasch J. 2001. Risk factors for high-order multiple implantation after ovarian stimulation with gonadotrophins: evidence from a large series of 1878 consecutive pregnancies in a single centre. *Hum Reprod*., 16(10): 2124-2129.

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