ORIGINAL ARTICLE

Outcome of Twin Pregnancy in Registered Versus Un-Registered Cases

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ABSTRACT

Background: Twin pregnancy represents high risk pregnancy. Twin pregnancy needs special attention from obstetricians. Approximately 01% of all the pregnancies are twin and 10% of perinatal mortality is related to twinning. There may be many abnormalities in twins like anemia and growth retardation at birth.

Aim: To see the outcome in twin pregnancy regarding newborn and to compare the newborn outcome among registered and un-registered patients.

Methods: This study was carried out at Holy Family Hospital, Rawalpindi , Department of Obstetrics and Gynecology. It was carried out from 12th April 2016 till 12th October 2016. 64 registered and 64 un-registered patients were included. Twins data regarding gestational age , mortality, NICU admission and APGAR scoring at 1 and 5 minutes was collected. This data was collected for both twins so that comparison and hence this cross sectional study can be done.

Results: Average gestation was 35.75±2.4 weeks. The average gestation of the registered and un-registered patients was not of much difference. 6(51.6%) of twin I were SVDs and 62(48.4%) were LSCS. 64(50%) of twin II were SVDs and 64(50%) were LSCS. Not so much variation in the mode of delivery between the registered and un-registered patients; p>0.05. Among the twin I 19 (14.8%) expired and 109(85.2%) survived. 9(7%) had IUD/ stillbirth and the remaining 10 had perinantal death. Rate of expiry was higher among the un-registered patients regarding both twins; p= 0.00. Among twin I, 9 babies had IUD/ stillbirth and hence could not be shifted to NICU. Out of the remaining 119 twin I, 36 (30.25%) required shifting to NICU.

Conclusion: Un-registered patients showed bad outcome regarding , mortality of twins, admission in neonatal intensive care unit and APGAR scoring at 1 and 5 minutes as compared to registered group.

Keywords: Twin pregnancy; perinatal mortality, APGAR score, registered patients, antenatal care.

INTRODUCTION

Twinning adds more risk to pregnancy as compared to singleton pregnancy. It is high risk as it adds to maternal and the fetal risks during antenatal period as well as during labor[1]. Prevalence of twin pregnancy in North America and Europe is 11/1000deliveries. The incidence of monozygotic twins (identical twins) is 3.5/1000 births and that of dizygotic twins (fraternal twins) varies with age, race, parity and use of assisted reproductive techniques. Risk of twinning is 20-40% increased in patients undergoing ovulation induction[2] .

Because of advancements in perinatal and neonatal care the major issues that effect neonatal outcome of multiple pregnancy include premature labor, less than normal weight of new born and fetal

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growth retardation. Approximately one percent of all the pregnancies are twin and 10% of perinatal mortality is related to twinning[2]. Newborns are at a high risk of acute respiratory distress syndrome, intraventricular hemorrhage, anemia, twin transfusion syndrome, fetal anomalies, retinopathy, necrotizing enterocolitis, patent ductus arteriosus and prolonged hospital stay[2]. Second twin is especially at a greater risk of poor perinatal outcome which also depends on the presentation and mode of delivery[3]. Hence determination of chorionicity is very important and follow up of monochorionic pregnancy is very essential regarding antenatal care which is only possible if the patients have regular antenatal visits[4].

A prospective study at SGRH Lahore was carried out in which two thousand eight hundred and sixteen deliveries were included, over one year period forty one pairs of twins delivered. Among these deliveries 1.45 % were twin pregnancies. 11 patients were registered and thirty patients came in emergency. Seventy eight percent of patients delivered vaginally and abdominal delivery was carried out in nine (21.8%) patients. Four intrauterine deaths and four newborn deaths were present.

Mortality rate was nineteen percent in babies from 28 week of gestation till seventh day of life. Prenatally women suffered from complications like anemia, PIH and preterm labor[5].

Twinning adds more risk to pregnancy as compared to singleton pregnancy. Timely registration helps in early diagnosis. Proper counseling about importance of regular prenatal visits should be done[6].

As there is positive correlation between un-registered mother and increased risk of adverse feto-maternal outcome, patients should be referred early to a well equipped health care center[7].

In our hospital we receive about 40% un-registered cases of twin pregnancy. We planned this study to see whether regular antenatal visits give any benefit to the patient regarding perinatal outcome of twin pregnancy.

MATERIAL AND METHODS

This study was carried out at Holy Family Hospital, Rawalpindi, Department of Obstetrics and Gynecology, from 12th April 2016 to 12th October 2016. A total of 64 registered and 64 un-registered patients were included in the study. Group A 64 registered cases and group B 64 un-registered cases. Non probability consecutive sampling technique was used. Patients included who have completed 28 weeks of pregnancy with twin gestation presenting in labor. Booked cases should have at least five antenatal visits in Obstetrics department of above mentioned hospital. Patients excluded were: Patients with age >35 years, Patient with fetal anomalies diagnosed on ultrasound, Patients having medical disorders like diabetes mellitus, hypertension, respiratory, cardiac, liver, gastro-intestinal, neoplastic or hematologic disorders, Patients who deliver first twin outside the hospital and then present to the hospital, Patients presenting with preterm, prelabor rupture of membranes. After Approval by ethical committee of the hospital all patients of twin pregnancy in labor were admitted through OPD and emergency. Informed written consent was obtained. General physical examination of the patient and systemic examination was done by the duty doctor. Recording of all information about booking status, gestational age and mode of delivery on a performa was done. Data about admission to NICU perinatal mortality APGAR score was collected. This data was collected for both twins so that comparison and hence this cross sectional study can be done.

All data will be analyzed using SPSS version 22. Mean and standard deviation (mean +SD) were calculated for numerical data e.g., gestational age, and apgar score. Frequency of twin pregnancy and percentages for admission to NICU and perinatal mortality were calculated. Chi square test was used to compare the admission rate to NICU and perinatal mortality

RESULTS

The study included 128 pregnant ladies with twin pregnancy. The gestational age ranged from 28 to 42 weeks with average gestation of 35.75±2.4 weeks. The average gestational age of the registered patients was 37.09±1.6 weeks while that of un-registered patients was 36.24±2.9.Hence relatively more preterm births (Table 1).

Majority of the deliveries were spontaneous vaginal deliveries. 66(51.6%) of twin I were SVDs and 62(48.4%) were LSCS. 64(50%) of twin II were SVDs and 64(50%) were LSCS. Among the twin I 19(14.8%) expired and 109(85.2%) survived. 9(7%) had IUD/ stillbirth and the remaining 10 had perinantal death (Table 2).

Among the twin II 17(13.3%) expired and 111(86.7%) survived. 7(7%) had IUD/ stillbirth and the remaining 10 had perinantal death (Table 3).

Among twin I, 04 out of 64(1.56%) registered cases expired as opposed to 15 out of 64(23.4%) un-registered cases.The probability value for this difference of expiries between two groups was 0.00, i.e., quiet significant (Table 2).

Among twin II, 01 out of 64(6.25%) registered cases expired as opposed to 16 out of 64 (25%) un-registered cases. The probability value for this difference of expiries between two groups was 0.00, i.e., quiet significant (Table 3). Thus in un-registered patients there were significant high mortality rate.

Among twin I, 9 babies had IUD/ stillbirth and hence could not be shifted to NICU. Out of the remaining 119 twin I, 36(30.25%) required shifting to NICU (Table 4).

Among twin II, 7 babies had IUD/ stillbirth and hence could not be shifted to NICU. Out of the remaining 121 twin I, 39(32.2%) required shifting to NICU (Table 5).

Among surviving twin I, 05 out of 63 (7.9%) registered cases required shifting to NICU as opposed to 31 out of 56 (55.3%) un-registered cases. The probability value for this difference in neonatal intensive care unit admissions between two groups was 0.00, i.e., quiet significant (Table 4).

Among surviving twin II, 05 out of 63(7.9%) registered cases required shifting to NICU as opposed to 34 out of 58 (58.6%) un-registered cases. The probability value for this difference in neonatal intensive care unit admissions between two groups was 0.00, i.e., quiet significant (Table 5). Hence rate

of NICU admissions was much higher among the un-registered patients.

Among the twin I, the average APGAR scoring at one minute in the registered group was 7.79±1.64 and the average APGAR scoring at one minute in the unregistered group was 5.65±2.53, the probability value for this difference of APGAR scoring between two groups was 0.00, i.e., quiet significant (Table 6).

Among the twin I, the average APGAR scoring at five minute in the registered group was 9.35±1.71 and the average APGAR scoring at five minute in the un-registered group was 6.81±2.9, The probability value for this difference in five minute APGAR score between two groups was 0.00, i.e quiet significant (Table 6) .

Among the twin II, the average APGAR scoring at one minute in the registered group was 7.75±1.43 and the average APGAR scoring at one minute in the un-registered group was 5.7 ±2.32, The probability value for this difference in one minute APGAR score between two groups was 0.00, i.e., quiet significant (Table 7) .

Among the twin II, the average APGAR scoring at five minute in the registered group was 9.28± 1.558 and the average APGAR scoring at five minute in the un-registered group was 6.85±2.75, t The probability value for this difference in five minute APGAR score between two groups was 0.00, i.e quiet significant (Table 7) .

Table 1: Comparison of gestational age of the Registered and Un- registered cases

Category	Average	Std. Deviation	Std. Error Mean
Gestation in weeks			
Registered	37.0952	1.61359	.20329
Un Registered	36.2438	2.92889	.36611

P value: 0.064

Table 2: Perinatal mortality of twin I (Registered versus Un registered groups)

Group	Mortality of twin I	
	Yes	No
Registered	4	60
Un Booked	15	49
Total	19	109

P value: 0.006

Table 3: Mortality of twin II (Registered versus Un registered groups)

Group	Mortality of twin II	
	Yes	No
Registered	1	63
Un Booked	16	48
Total	17	111

P value: 0.00

Table 4: Shifting to NICU of twin I (Registered versus Un registered groups)

Group	Shifting to NICU of twin I	
	Yes	No
Registered	5 (7.9%)	58
Un Booked	31 (55.3%)	25
Total	36	83

P value: 0.00

Table 5: Shifting to NICU of twin II (Registered versus Unregistered groups)

Group	Shifting to NICU of twin II	
	Yes	No
Registered	5 (7.9%)	58
Un Booked	34	24
Total	39	82

P value: 0.00

Table 6: APGAR score of twins at one and five minutes (comparison of Registered versus Un registered groups)

Group	No.	Average	Std. Deviation	Standard. Error average
APGAR scoring at 1 minute (p value 0.00)				
Registered	64	7.79	1.644	.205
Unregistered	64	5.65	2.53	.316
APGAR scoring at 5 minutes (p value 0.00)				
Registered	64	9.35	1.71	.214
Unregistered	64	6.81	2.9	.367

Table 7: APGAR scoring of twin II at one and five minutes (comparison of registered versus un registered groups)

Group	No.	Average	Std. Deviation	Standard. Error average
APGAR scoring at 1 minute (p value 0.00)				
Registered	64	7.75	1.436	.179
Unregistered	64	5.70	2.320	.290
APGAR scoring at 5 minutes (p value 0.00)				
Registered	64	9.28	1.558	.194
Unregistered	64	6.85	2.759	.344

DISCUSSION

Twinning imposes risk to pregnancy. Twin pregnancy needs special care from paediatricians and obstetricians. Approximately one percent of all the pregnancies are twin and 10% of perinatal mortality is related to twinning[2]. There may be many abnormalities in twins like anemia and growth retardation at birth. Second twin is especially at a greater risk even during labor and of poor perinatal outcome which also depends on the presentation and mode of delivery[3].

The average gestational age of the registered patients was 37.09±1.6 weeks while the average gestational age of the unregistered patients was 36.34±2.9.Hence relatively more preterm births.

Similar results were found in study conducted at Peshawar[6,7].

In our study overall mortality in twin I & II was 19 & 17 and if we look into mortality for registered and un registered it was more in un registered. Same findings were present in a study conducted by Naqvi et al[8,9]. There may be many complications that may be present with twin pregnancy that can lead to morbid condition in both mother and fetus and hence can increase mortality. A good outcome is expected if proper follow up done during whole gestation, with regular scans and at the time of delivery trained staff nurses with paediatrician present in fully equipped nursery.

For both twin I & twin II number of admissions in neonatal intensive care unit was more in un registered patients in our study almost same results were present in a study conducted at Peshawar[9] .Hence number of admissions in neonatal intensive care unit was significant among the unregistered patients so twin pregnancy should be delivered in a setting where NICU is available and is possible usually if the patient is already registered.

Regarding APGAR score it was high at 01 & 05 minutes in both twin I & II in registered patients in our study as compared to un- registered patients twins and similar results were observed in two studies[7,9] . Again showing importance of booking and hence delivery in fully equipped hospital with NICU.

Females with more gestations are having more risk of antepartum and intrapartum problems and their infants require special care. There is need to identify these cases early in order to provide good prenatal care and deliver them in hospitals with facilities for neonatal and maternal intensive care.

CONCLUSION

Unregistered patients have complicated outcome of newborn in terms of neonatal weight, perinatal mortality, shifting to NICU and APGAR scores at 1 and 5 minutes as compared to registered group. In twin pregnancies are fetus or newborn are at more risks. Specialised antenatal care is required to minimize complications and poor outcome in twin pregnancies, and the requirement for ongoing social and medical care even in postpartum period for mother and child. However, it is also required that every setup should have their surveillance in order to know the frequency of the problem.

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