

PERINATAL AND MATERNAL OUTCOME IN RETAINED SECOND TWIN

Tanveer Shafqat, Rehana Rahim, Nasreen Ruby Faiz

Department of Obstetrics and Gynaecology,
Postgraduate Medical Institute, Lady Reading Hospital, Peshawar

ABSTRACT

Objective: To evaluate the perinatal and maternal outcome related to retained second twin.

Material and Methods: This study was carried out in Gynae 'B' Unit, Postgraduate Medical Institute, Lady Reading Hospital, Peshawar from January 2004 to December 2005. Patients presenting to the labour ward after having delivered the first twin at home and with retention of the second twin in-utero with time interval of more than 30 minutes after the delivery of the first twin were included in the study.

Results: A total number of 25 patients presented with retained second twin during the above mentioned time period. Malpresentation in 14 patients (56%) and uterine inertia in 7 patients (28%) were found to be the commonest reasons causing retention of second twin, while malpresentation and uterine inertia together was seen in 4 patients (16%). The perinatal mortality was 76% (n=19/25). Maternal morbidity like fever was seen in 12 patients (48%) while post partum hemorrhage occurred in six patients (24%). Blood transfusion was required in 17 patients (68%). In post partum period breast engorgement requiring treatment with bromocriptine was seen in 5 patients (20%).

Conclusion: Retained second twin is associated with a high perinatal mortality rate and also causes increased morbidity in mothers. Thus, patients with twin gestation should be referred earlier to a center equipped to handle such a high-risk pregnancy and its associated problems at birth.

Key Words: Multiple-Pregnancy, Retained Second Twin, Maternal Mortality, Morbidity.

INTRODUCTION

Multiple births have fascinated mankind since ages. Many a times, the diagnosis of twin pregnancy is missed. It is common in communities where antenatal care is poor or unavailable. Without the use of ultrasound about 30% of twin pregnancies remain undiagnosed¹. In such cases, the diagnosis of twins is sometimes missed till the birth of the first twin. Multiple-gestation is a high-risk pregnancy and is associated with increased fetal and maternal risks and complications². One such complication is retained second twin.

The second twin is said to be retained when the delivery does not take place in 30 minutes following the birth of the first twin. In the absence of uterine contractions, the cervical os may start closing and thickening of cervix may occur. Partial closure of the cervix thus causes retention of the second twin. Malpresentation of the second fetus may also be a cause of retention in utero³.

If syntometrine has been given after delivery of first twin, vigorous uterine contractions may either expel the second twin very rapidly or cause death of the second twin due to anoxia as well as causing its retention. In other cases, second twin may be bigger than the first one and cephalopelvic disproportion may hinder the delivery and cause retention of the second twin.

This study was carried out to analyze the morbidity and mortality of both the fetus and the mother in cases of retained second twin.

MATERIAL AND METHODS

This study was conducted on patients who came with retained second twin to Department of Obstetrics and Gynaecology, Postgraduate Medical Institute, Lady Reading Hospital Peshawar from January 2004 to December 2005.

Lady Reading Hospital is a tertiary care hospital with referral from rural areas and small towns covering a vast area. Of the total number of

PRESENTATION OF SECOND TWIN (n = 25)

Presentation	Number of Patients	%age
Transverse Lie	13	52 %
Vertex	08	32 %
Breech	04	16 %

Table 1

patients coming to labour room of Gynae "B" Unit, LRH, Peshawar, the patients enrolled in the study were those who met the following criteria:

1. First twin was delivered at home.
2. Patient presented with the retained second twin.
3. Time interval of more than 30 minutes after the delivery of the first twin had lapsed.

A detailed history was recorded and general physical and systemic examination was carried out. The lie of the retained twin was ascertained and the presence or absence of fetal heart sound was documented. The presence or absence of membranes was also documented. The second twin was either delivered vaginally or by cesarean section. Fetal APGAR score, congenital anomalies and admission to neonatal intensive care unit was taken into account. Maternal complications like postpartum hemorrhage, sepsis, fever, requirement of blood transfusion and any other morbidity was also recorded and analyzed.

RESULTS

The total number of patients, with twin gestation, presenting to the labour ward during the period extending from Jan 2004 to Dec 2005 was 354. Twenty-five patients (7.06%) were included in this study as they met the eligibility criteria. Of the patients with twin gestation delivered at hospital, none had the complication of retained second twin. The patients who met the inclusion criteria were non-registered patients presenting with this complication in emergency. The presentation of retained second twin was transverselic in 13 (52 %), cephalic in 8 (32 %) and breech in 4 (16 %) cases (Table 1).

MODE OF DELIVERY (n = 25)

Procedure	Number of Patients	%age
Cesarean Section	10	40 %
Vaginal Delivery	08	32 %
Breech Delivery	04	16 %
Internal Podalic Version and Breech Extraction	03	12 %

Table 3

APGAR SCORE AT BIRTH (n = 25)

Score	Number of Babies	%age
0	17	68 %
1-3	02	08 %
4-7	04	16 %
>7	02	08 %

Table 2

Of the 25 patients presented to us with retained second twin, 8 (32 %) had babies with positive fetal heart sounds, while 17 (68 %) were dead at the time of presentation. The APGAR score of the second twin who were delivered in the hospital showed that 17 (68 %) were stillborn, 4 (16 %) had an Apgar score of 4-7, two (8 %) had a score of 8 and 2 (8 %) had a score ranging from 1-3 indicating severe asphyxia. (Table 2)

Mode of delivery in these 25 cases of retained second twin is shown in Table 3. Ten (40%) patients had cesarean section for transverse lie, 8 (32.00%) had vaginal delivery with vertex presentation, 4 (16 %) had assisted breech delivery and 3(12 %) patients were delivered by internal podalic version and breech extraction. The indication for cesarean section was transverse lie in all ten cases. Three patients with transverse lie had internal podalic version with breech extraction (Table 3).

The causes of retention of second twin were found to be malpresentation in 14 (56 %) patients, uterine inertia in 7 (28 %) patients and uterine inertia along with malpresentation was seen in 4 (16 %) patients (Table 4).

An analysis of complications seen in mothers who came with retained second twins indicates that postpartum hemorrhage occurred in 6 (24 %) patients. Twelve (48 %) patients had pyrexia in the immediate postnatal period indicating infection due to manipulation. Three (12 %) had swelling of vulva because of repeated examinations. Blood transfusion was required in 17 (68 %) patients, as most of the patients were found anemic. Breast engorgement was seen in 5(20 %) patients and 4(16 %) patients had urinary tract infection. There was no case of uterine rupture or

CAUSES OF RETENTION OF SECOND TWIN (n = 25)

Causes	Number of Patients	%age
Malpresentation	14	56%
Uterine Inertia	07	28%
Malpresentation and Uterine Inertia	04	16.6%

Table 4

MATERNAL COMPLICATIONS (n = 25)

Complications	Number of Patients	%age
Blood Transfusion	17	68 %
Pyrexia	12	48 %
Postpartum Hemorrhage	06	24 %
Breast Engorgement	05	20%
Swollen Vulva	03	12 %

Table 5

maternal mortality in our study. (Table5)

PERINATAL OUTCOME:

Seventeen babies (68%) were stillborn and eight were born alive. Two babies (8%) with APGAR score of >7 had good neonatal outcome; they were healthy and active and did not require referral to neonatal intensive care unit. All babies who were born with APGAR score of 1-7 were referred to neonatal intensive care unit. They were admitted there for emergency resuscitation and intensive care. Two babies (8%) with APGAR score of 1-3 died in nursery few hours after delivery. Cause of death was birth asphyxia. Four babies (16%) who were born with APGAR score of 4-7 had good neonatal outcome and they were discharged from nursery. Perinatal mortality in our study was 76 %. (Table 6)

DISCUSSION

In this study, it was found that 13 patients (52 %) having a retained second twin presented with transverse lie while in 8 patients (32 %) presentation was cephalic and 4 (16 %) presented as breech. It appears that malpresentation of the second twin was the most common reason for retention. Various studies have shown that malpresentation and malposition are common reasons for retention of second twin; the incidence quoted is 43% approximately⁴.

Uterine inertia as a cause of failure of the delivery of second twin occurred in 7 patients (28 %). In 4 patients (16 %) it was associated with breech presentation. In literature, the reported incidence of uterine inertia as a causative factor in retention of second twin is 48.4% while this study reveals uterine inertia with or without other associated factors to be a cause in 44 % of the cases⁵.

At the time of presentation to the hospital, the fetal heart sounds were checked and recorded. It was found that 17 (68 %) of the fetuses were already dead when patients were brought to the hospital while fetal heart sounds could be documented in 8 babies (32%). A record of APGAR score was made after delivery. It was found that two babies had an APGAR score of 1 -3

PERINATAL OUTCOME (n = 25)

ALIVE	06	24%
DEAD	19	76%
Still Birth	17	68%
Neonatal Death	02	08%

Table 6

indicating severe birth asphyxia and they later on developed septicemia and died. The various factors, which contributed, were retention in utero, prolonged inter delivery interval and low APGAR score at birth⁶. Four babies had APGAR score in the range of 4-7 and had good perinatal outcome.

Mode of delivery in these twenty-five cases of retained second twin in our study were cesarean section (40 %), vaginal delivery (32 %), breech extraction (12 %)and assisted breech delivery (16 %). There is an increasing trend towards performing cesarean section in retained twin as indicated by the study of Lawrence et al which shows a 50% rate of cesarean section in retained second twin⁷. Our study indicates that 40% patients underwent abdominal delivery for 2nd twin⁸.

The overall perinatal mortality was found to be 76 %. This is an enormously high figure indicating poor antenatal care. The perinatal mortality rates associated with retained second twin have variously been described as 38.5% by Lassey and Ghosh⁹, and 258/1000 in retained second twin by Nkata¹⁰. In Pakistan, perinatal mortality in retained second twin has been reported to be 71.42% in a study by Shami¹¹. The factors contributing to very high perinatal mortality in this study is probably because of misdiagnosed twin pregnancy, prolonged delivery interval and birth asphyxia.

Analysis of maternal morbidity indicates that postpartum hemorrhage occurred in 6 (24%) patients. It is well known that multiple gestation is associated with greater risk of PPH due to a large placental site and the fact that over distended uterus may take longer to contract. Blood loss of approximately 1 liter is too much for an already anemic patient and the mother may go into shock, requiring multiple transfusions and anti-shock measures.¹²

Pyrexia occurred in 12 (48%) patients included in our study. All these patients had delivered the first twin at home and were handled by *Dais*. *Dais* do not use aseptic measures and frequently the patients have fever in postpartum period requiring antibiotics. Due to *Dais* handling

two patients had swelling of the vulva.

Blood transfusion was required in seventeen patients; six patients had PPH while eleven patients were anemic.

There was no rupture uterus or any maternal mortality. Five patients had breast engorgement requiring therapy with Bromocriptine.

CONCLUSION

It is concluded that retained second twin is associated with a high frequency of perinatal mortality and maternal complications, hence, measures should be taken to ensure that twin deliveries are conducted only in places equipped to manage the situation.

There should be a comprehensive programme to make *Dais* and Trained birth Attendants (TBA's) aware of the complications associated with this condition and they should be trained when to suspect a twin gestation and properly refer to appropriate centers. They should also be instructed to educate women with twin gestation about the possible complications and contribute to overall health care awareness in women.

REFERENCES

1. Campbell S, Lees C. Multiple gestation. Chap 13. In: *Obstetrics by Ten Teachers*. 17th ed. 2000; ELST & Arnold, New delhi:187-95
2. Crowther CA. Multiple pregnancy. In: James DK, Steers PJ, Weiner CP, Gonik B. Editors. *High Risk Pregnancy: Management options*. WB Saunders, London, 2nd ed 1999; 524-55.
3. Aniebu U U, Ezegwin HU, Ozumba BC. Retained second twin in Enugu, Nigeria. *Int J Gynecol Obstet* 2003; 81:281-5.
4. Clerici G, Cutuli A, Renzo GC. Delayed delivery interval of a second twin. *Eur J Obstet Gynecol Reprod Biol* 2001 ; 96:121-3.
5. Abdul MA. Twin births in the Comoros. *East Afr Med J* 2000;77:596-8
6. Jaffery C, Lisa W, Livingstone, Ramsey R, Sibai, Baha M. Second trimester asynchronous multifetal delivery results in poor perinatal outcome. *J Obstet Gynecol* 2004 ;103:77-81.
7. Lawrence OP, Kitaw D, Quiying Y, Karen FK, Mark W. Occurrence and predictors of cesarean delivery for second twin after the delivery of the first twin. *Obstet Gynecol* 2004; 103:413-9.
8. Bell D, Johansson D, McLean FH, Usher RH. Birth asphyxia, trauma and mortality in teens; has cesarean section improved outcome? *Am J Obstet Gynecol* 1986;154:235-9.
9. Lassey AT, Ghosh TS. Perinatal and maternal mortality associated with retained second twin. *Int J Gynecol Obstet* 2003; 81:281-5.
10. NKata M. Perinatal mortality in retained second twin. *J Obstet Gynecol* 2000; 20: 256-8.
11. Shami N, Akbar N, Asif S. An analyses of fetal and maternal morbidity and mortality in retained second twin. *J Coll Physicians Surg Pak* 2001; 11: 750-3.
12. Haque KN, Bashir O. Perinatal mortality in twin gestation at King Khalid University Hospital Riyadh. *Ann Saudi Med* 1988;8:190-3.

Address for Correspondence:

Tanveer Shafqat
Department of Obstetrics and Gynaecology,
Postgraduate Medical Institute,
Lady Reading Hospital, Peshawar.