

Outcome of Triplet Gestations in an Apex Institution

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Summary

A retrospective review of 5 triplet gestations delivered between September 1997 and November 1998 was done at Kamla Nehru hospital, Indira Gandhi Medical College Shimla. The incidence of triplet gestations during the period was 1 in 642. The pregnancy outcome especially preterm labour and pre-eclampsia occurred with greater frequency in these patients. The mean gestation at delivery was 34.8 weeks. In the present study neonatal outcome was better after abdominal delivery as compared to vaginal delivery. If the first triplet is presenting as vertex and fetal monitoring is possible and there are no obstetric complications, vaginal delivery can be attempted.

Introduction

During the last decade there has been a dramatic influx of high order multiple pregnancies as a result of fertility therapy. Seoud et al (1992) reported an incidence of 2.6% triplet gestations and 0.5% quadruplets resulting from ART. The natural incidence of triplet pregnancies which has been reported to range from 1 in 7921 to 1 in 9828 has increased to a range of 1 in 849 to 1 in 2083.

Physicians caring for high order multiple gestations must deal with extraordinary challenges, including the near-certain occurrence of episodes of preterm labour, high probability of pregnancy induced hypertension, IUGR and gestational diabetes. There is a substantially increased risk of perinatal mortality and morbidity compared with singleton gestations.

The ultimate outcome of multifetal gestations relates in past to the number of conceptuses and the quality of obstetric and neonatal care.

Greater availability of diagnostic ultrasonography, which allows early diagnosis of multifetal gestations, together with improved obstetric and neonatal care are expected to influence the outcome of these pregnancies, mainly by reducing perinatal morbidity and mortality.

Material and Methods

Table I
Pregnancy & Delivery date

1) Mean maternal age	28.2 years
2) Mean parity	0.6
3) Ovulation induction (2)	40%
4) Spontaneous Conception (3)	60%
5) Family History (2)	40%
6) Prior twins (1)	20%
7) Mean gestational age at diagnosis	22 weeks
8) Mean gestational age at delivery	34.8 weeks

Between September 1997 and November 1998

5 triplet pregnancies were delivered at the Kamla Nehru hospital, Indira Gandhi Medical College Shimla. During this period total number of deliveries were 3209. The details of patients characteristics and delivery data are given in table I.

All the patients were advised admission and complete bed rest was instituted. Prophylactic tocolysis were given along with corticosteroids to promote fetal lung maturity. Patients were given calcium supplementations in addition to Iron & Folic acid. Low dose aspirin was also given for pre-eclampsia prophylaxis. Regular haemoglobin estimation, daily blood pressure recording, urine examination, renal function tests were instituted. In addition serial scanning to evaluate fetal growth and amniotic fluid volume was done. Biophysical profile was done as and when indicated.

Pregnancy was terminated either vaginally or abdominally at the gestation age of 36 to 37 weeks;

Observations

1) The incidence of triplet deliveries was 1 in 642 at KNIH (Kamla Nehru Hospital, Indira Gandhi Medical College), IGMCS Shimla.

Among the 5 triplet gestations, 2 patients (40%) conceived after ovulation induction with clomiphene citrate and 3 patients conceived spontaneously. Family history of twinning was present in 2 patients (40%) and one patient had prior twins after ovulation induction.

2) The mean maternal age was 23.2 years.

3) The mean gestational age at diagnosis was 22 weeks (range 14 weeks to 31 weeks). Out of these 2 patients (40%) were previously diagnosed as having twin gestations.

4) 3 patients (60%) had pre-eclampsia and one of these developed postoperative bilateral retinal detachment on the second postoperative day, which recovered completely within due course of time.

1 patient had gestational diabetes (20%)

2 patients had anaemia (i.e. Hb < 10gm%)

3 patients (60%) developed preterm labour, one out of these had preterm rupture of membranes (20%)

5) The mean gestational age at delivery was 34.8 weeks.

Out of these 5 patients, 3 had caesarean sections. (In one patient 1st triplet was presenting as breech and in another in oblique lie and the third patient had PIH & gestational diabetes).

Two patients had vaginal delivery at 34weeks + 2 days and 32 weeks + 5 days. When they presented

with preterm labour with advanced cervical dilation

6) The overall mean Apgar score was 6.3 at 1 minute whereas the mean Apgar score among vaginal and caesarean section fetuses was 5.2 and 7 respectively.

7) The average birth weight was 1.71 kg, whereas the average birth weight among vaginal & caesarean section deliveries was 1.47kg and 1.88kg respectively.

8) The interval between delivery of triplets was 1 minute in caesarean as compared to 7 to 8 minutes in vaginal delivery group.

9) Of the 15 fetuses delivered, there were 3 neo-natal deaths among those delivered vaginally (neonatal mortality of 500 per 1000) and nil in caesarean section group (0 per 1000). The overall neonatal mortality was 200/1000. There were no stillbirths.

Discussion

The incidence of triplet gestation in the present study was 1 in 642 which is more than that reported by Lipitz et al (1989) & Itzkowic (1979). This could be due to shorter study period. The mean maternal age was less compared to other studies (29 to 30 year in Wildschut et al, 1995 study). As the current study group did not have prolonged infertility and also because our women get married at an early age as compared to their western counterparts.

Incidence of preterm labour and pre-eclampsia was high as reported in other studies. Bed rest, oral tocolytics & corticosteroids did have a role as was proved by the patients who were hospitalized. Two patients who were admitted after 30 weeks and did not have tocolytics and corticosteroids developed preterm labour and reported to the labour room with advanced cervical dilatation.

The overall perinatal mortality was comparable to the older studies but was higher than the recent studies as in table IV, whereas the mean gestation age at delivery is comparable to the other studies.

Table II
Incidence of Maternal Complications

Complication	No.	%age
Preterm labour	3	60%
Preclampsia	3	60%
Anaemia	2	40%
Retinal detachment	1	20%
Preterm premature rupture of membranes	1	20%
Gestational diabetes	1	20%

Table III
Neonatal death

Sr. No.	Gestation at delivery	Birth order	Mode of delivery	APGAR	Birth weight	Cause
01	32W+5D	II	Vaginal	4/6	1.2kg	Intraventricular bleed
02	34W+2D	II	Vaginal	5/9	1.7kg	Septicemia with meningitis with hypothermia
03	34W+2D	III	Vaginal	6/9	1.5kg	Septicemia with meningitis

Table IV
Comparison of outcome for triplet pregnancies

Sr. No.	Series	Study Period	No. of cases	Gest. at delivery	Perinatal mortality
1.	Daw (1978)	1958-1977	14	34.7	310
2.	Holeberg et al (1987)	1960-1979	31	31.8	312
3.	Seoud et al (1992)	1982-1990	15	31.8	0
4.	Boulot et al (1992)	1985-1990	33	34.1	428
5.	Albrecht & Tomich (1996)	1989-1994	57	33.0	41
6.	Present study	1997-1998	05	34.8	200

In our study neonatal outcome after abdominal delivery was better than that following vaginal delivery. This could be explained by the fact that the mean gestation age in vaginal delivery group (33.5 weeks) was less compared to abdominal delivery group (35.7 weeks). In addition the delivery interval between triplets was more in those delivered vaginally and also due to intrauterine manipulations, versions & extractions involved in vaginal delivery. This is contrary to recent studies (Wildschut et al, 1995) which favour planned vaginal delivery over abdominal and have found the frequency of adverse fetal & neonatal complications less in those delivered vaginally.

Which is the best management option in triplet pregnancies is not easy to answer. Each case should be individualized. If there are facilities to monitor all 3 fetuses separately during labour, appropriate neonatology support team, round the clock anaesthesia and blood transfusion facilities available, the vaginal birth may be considered a safe option. These deliveries should ideally be carried out in an operating room, with dual step up in the event an emergency caesarean needs to be done. In addition the obstetrician should be well versed with intra-uterine manipulations, instrumental

and breech delivery.

To sum up, it may be said that it is the quality of surveillance and care given during labour and child birth that determine the outcome than actual mode of delivery.

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