

A STUDY OF TRIPLET PREGNANCY — A MALAYSIAN EXPERIENCE

A. KULENTHRAN
S. RAMAN
T. A. SINNATHURAY

SUMMARY

A retrospective study of nine consecutive cases of triplet pregnancy delivered at the University Hospital showed an incidence of one in 6,349 deliveries. In seven cases the diagnosis was suspected, and confirmed either by radiography or ultrasonography. Pre-eclampsia and polyhydramnios were common ante-natal complications. The perinatal mortality rate was 74 per thousand. Overall, the first triplet had the best outcome in terms of Apgar scores. There were no perinatal deaths in those cases that were delivered by Caesarean section.

INTRODUCTION

Most of the literature on multiple pregnancy have been confined to twins. Even most of the standard textbooks of obstetrics refer to triplet pregnancy only briefly. The topic of multiple

pregnancy has recently assumed greater importance, following the advent of fertility drugs for induction of ovulation; with the increasing relevance to the contributory role of multiple pregnancies towards perinatal wastage, and their improved salvage by better obstetrical and neonatal care.

This paper is based on the study of nine consecutive cases of triplet pregnancies that were delivered in the Obstetric Unit of the University Hospital, University of Malaya in Kuala Lumpur, Malaysia, over a 15-year period, since its inception in March 1968 until December 1982.

MATERIALS AND METHODS

Case records of nine consecutive cases of triplet pregnancy, admitted to the Obstetric Unit of the University Hospital, were reviewed. Seven of the cases were booked at the ante-natal clinic. One of these patients defaulted and presented herself on the next occasion in labour. One case was unbooked and presented herself for the first time in labour. The last case was referred from a neighbouring district hospital for further management of her 'multiple' pregnancy.

Clinical data regarding incidence, maternal age, parity, community group and maternal complications have been reviewed. In addition to the birth weights, the presentation and the mode of delivery of the fetuses, and the fetal outcome have also been analysed.

A. Kulenthuran, MBBS, MRCOG
Lecturer
S. Raman, MBBS, MRCOG
Lecturer
T. A. Sinnathuray, AM, MBBS, MD
FRCS (Edin), FRCS (Glas), FRCOG, FICS, FACS
Professor
Department of Obstetrics and Gynaecology
Faculty of Medicine
University of Malaya
Pantai Valley
Kuala Lumpur, Malaysia

RESULTS

In the period covered, there were a total of 57,140 deliveries in the University Hospital, thus giving an incidence of one triplet pregnancy in 6,349 consecutive deliveries. The maternal ages of the patients, with triplet pregnancies, ranged from 24 to 34 years. In five of the cases, they were above 30 years. There were five Chinese, two Malays and two Indians; and three primigravidae and six multigravidae in this series. Two patients conceived while on clomophine therapy, as part of the management for primary infertility. There were no cases on gonadotrophin therapy.

In six of the nine cases, triplet pregnancy was suspected and confirmed ante-natally, either by ultra-sonography or radiography. All these six cases were booked before 30 weeks of gestation. Two cases were diagnosed only at delivery. One of these cases was unbooked, and presented herself only in labour. The second case defaulted after her first booking and presented herself in labour. In the remaining case, 'twin' pregnancy was diagnosed ante-natally by radiography in a neighbouring hospital and referred to the University Hospital for further management. The presence of a third triplet was diagnosed only after the delivery of the second triplet.

Obstetric Complications

Table I summarises the major obstetric complications encountered in this small series. Four of the nine cases had pre-eclampsia. In two cases, it was severe; and in one of these two, it became

TABLE I
OBSTETRIC COMPLICATIONS
SEEN IN 9 SETS OF TRIPLETS

Obstetric complications	No. of cases	%
Pre-eclampsia	4	44.4
Polyhydramnios	2	22.2
Anaemia	3	33.3
Postpartum haemorrhage	-	-
Pre-term labour	5	55.6

fulminating and a Caesarean section was indicated. There were no cases of eclampsia. Polyhydramnios was clinically detected in two of the nine cases. In three other cases, however, there was gross edema of both legs. Three of the nine cases had a haemoglobin level of less than 10 g%. Two of these cases were unbooked.

There were no cases of postpartum haemorrhage in this series. In all but two cases, intravenous ergotmetrine was administered following the delivery of the last triplet. Five of the nine cases went into pre-term labour (labour starting before the end of the 36th week). Of these five, four cases did not have the benefits of 'bed rest', or ante-natal hospitalisation. Moreover in two of these cases, hydramnios was present.

Fetal Factors

Fetal Birthweight. Table II summarises the birthweights of the babies. It will be noted that 78% of the babies had a birthweight of less than 2,500g. Regarding sex ratio distribution, there were 16 females and 11 males in this series.

Mode of Delivery. The mode of delivery of the various triplets have been summarised in Table III. Overall, lower segment Caesarean section was the most common mode of delivery (44%). It was the commonest mode of delivery for the first, second or third triplets respectively.

There was no significant increase in the obstetric interference in the second or third triplet, in those

TABLE II
BIRTHWEIGHT DISTRIBUTION
OF 9 SETS OF TRIPLETS

Birthweights (grams)	No. of fetuses	%
Less than 1,000	1	3.7
1,000 - 1,499	7	25.9
1,500 - 1,999	7	25.9
2,000 - 2,499	6	22.2
2,500 and more	6	22.2
Total	27	100

TABLE III
MODES OF DELIVERY OF 9 SETS OF TRIPLETS

Mode of delivery	First Triplet	Second Triplet	Third Triplet	Total No. (%)
Spontaneous vertex delivery	3	2	3	8 (29.6)
Forceps delivery	1		1	2 (7.4)
Ventouse delivery				0 (0)
Assisted breech delivery	1	2		3 (11.1)
Breech extraction		1	1	2 (7.4)
Caesarean section	4	4	4	12 (44.4)
Total	9	9	9	27 (100)

babies that were delivered vaginally, in this small series.

Delivery Time Interval and Apgar Scores. The correlation between the delivery time interval of the various triplets and Apgar ratings, at one minute, have been presented in Table IV. Overall, the first triplet had the best mean Apgar score (8.8), when

compared to the second and third triplets. However, it appears that in the cases that were delivered **vaginally**, the third triplet had a better mean Apgar score (8.4), at one minute, when compared to the first (7) and second (6.4) triplets. In particular, the length of time-interval between delivery of the first and second and third triplets respectively showed no correlation with the fetal outcome in terms of Apgar score.

TABLE IV
APGAR SCORE (AT ONE MINUTE) IN RELATION TO THE TIME-INTERVAL BETWEEN DELIVERY OF TRIPLETS

Case	Apgar score of first triplet	Time interval delivery between triplet 1 and 2	Apgar score of second triplet	Time interval delivery between triplet 2 and 3	Apgar score of third triplet
1	0 (msb)*	43	1	7	9
2	9	14	9	8	9
3	6	LSCS	9	LSCS	9
4	9	8	9	5	9
5	9	10	8	10	9
6	8	7	7	3	6
7	9	LSCS	9	LSCS	9
8	9	LSCS	9	LSCS	8
9	4	LSCS	4	LSCS	4
Mean	8.8		7.2		8

* macerated stillbirth

LSCS – Lower Segment Caesarean Section.

Perinatal Mortality. The overall perinatal mortality rate in our series was 74 per thousand (two out of 27 babies). This compares unfavourably with the overall perinatal mortality rate of the same unit of 16.8 per thousand in 1982 at the University Hospital. Both the perinatal deaths had a birthweight of less than 1,000 g. One was a macerated stillbirth which was 30 weeks mature at delivery. The other case, whose maturity was 36 weeks, died of respiratory distress syndrome on the sixth neonatal day.

Major congenital malformations are known to be more common in multiple pregnancy than in singletons.¹ However, in this small series, one case of overt non-lethal congenital malformation in the form of talpes equino-varus deformity was detected.

DISCUSSION

The incidence of triplet pregnancy of one in 6,349 deliveries at the University Hospital appears to be slightly higher than that reported for Western countries. Kurtz *et al.*,² reported an incidence of one in 7,925 deliveries in America, whereas Daw³ quoted an incidence of one in 9,520 for England and Wales. This could be due to the fact that our series consisted of a more selected hospital population. In accordance with most other reports,^{2,3} the present study showed that triplet pregnancy increased with maternal age and parity. The ante-natal diagnosis of triplet pregnancy can often be difficult clinically; especially when booking is made late as happened in two of the cases in the present study. Either abdominal radiography or ultra-sonography is mandatory, if multiple pregnancy is suspected. The latter is recommended in early pregnancy, while the former is more reliable in later pregnancy.⁴ However, both have their pitfalls. A transverse section of the fetal thorax can sometimes be mistaken for a head in ultra-sonography;⁴ whilst a foetal skeleton may be obscured by the maternal rib-cage or spine at the time of the routine radiography, as had happened in one of our cases.

Maternal complications, such as pre-eclampsia and polyhydramnios, are more common in multiple

pregnancy, and this occurred in 44% and 22% of our small series of patients, respectively. Hospital admission to achieve effective bed rest and prompt treatment is strongly advocated to reduce these complications and consequent fetal wastage. Postpartum haemorrhage can occur as a result of a large placental site, over-distension of the uterus or occurrence of uterine inertia. Although, there were no such complication in our small series, one must anticipate this problem and have blood available, an intra-venous infusion set-up running, and there must be judicious use of oxytocics.

In considering the factors that affect fetal survival, most authors with larger series^{2,3,5} unanimously agree that prematurity is responsible for most of the perinatal losses. To reduce its incidence, bed rest and hospitalisation is strongly recommended. Kurtz² reported a lower perinatal loss in patients who were hospitalised between the thirtieth and thirty-fourth weeks of pregnancy.

Thambyrajah,⁶ in a controlled study of twin pregnancy, found that the prophylactic use of the tocolytic agent, salbutamol, significantly prolonged the duration of the pregnancy.

The use of cervical encirclage suture, as a means of prolonging pregnancy, has been considered by Itzkowic,⁵ but he found that in ten of his patients who had it done, it did not help in any way to prolong the gestation.

The presentation and mode of delivery of the fetuses were also considered as factors, that can determine fetal survival rates. There was no correlation of fetal malpresentation to fetal loss in our small series. Daw,³ however, found that the fetuses presenting by the breech had the worst outcome, independent of the birth order. Kurtz² found a 100% mortality in the premature group of breech babies, that were delivered by internal podalic version. Itzkowic⁵ found that fetal malpresentations were more common for the second and third triplets, and hence contributed to the higher perinatal losses when compared to the first triplet.

It is of note that, as in our series, in all series reviewed^{2,3,5} there were no perinatal deaths in those cases that were delivered by Caesarean section.

Due to changes in utero-placental haemodynamics, such as premature separation of the placenta, reduction of uterine capacity following delivery of the first triplet, the risks of progressive anoxia to the second and third triplets are relatively high. Hence the time interval separating the delivery of each of the fetuses must be considered as a factor determining fetal survival. In our series, in the cases that were delivered vaginally, the third triplet appeared to have a better mean Apgar score at one minute, when compared to the first or second triplets. There was no correlation between the length of time interval between the respective deliveries and fetal outcome. Daw³ similarly found no direct correlation. Kurtz² and Itzkowic⁵ however showed a direct correlation, especially so in the premature group of infants.

CONCLUSION

A retrospective study of nine consecutive cases of triplet pregnancies delivered at the University Hospital between March 1968 and December 1982, showed an incidence of one in 6,349 deliveries. Two

cases were not diagnosed ante-natally. Common complications, that were encountered, were pre-eclampsia and pre-term labour. The overall perinatal mortality rate was 74 per thousand (two out of 27 cases). Interestingly, the fetal wellbeing of the third triplet, in terms of Apgar score, was more favourable than the first or second triplets in those cases that were delivered vaginally. There were no maternal deaths in this very small series.

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