

A Clinical Study on Maternal and Perinatal Outcome in Multiple Pregnancies

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Original Research Article

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Article History

Received: 04.11.2017

Accepted: 08.11.2017

Published: 30.11.2017



Abstract: The occurrence of two or more fetuses simultaneously in the uterus is referred to as multiple pregnancy. Teleologically, multiple pregnancy in humans can be regarded as an atavistic trait to which the mother is not optimally suited, with consequent increase in the risks for both the fetuses and the mother. The past few years have shown a considerable rise in the incidence of multiple pregnancies largely attributed to the advent of assisted reproduction, use of ovulation inducing drugs and an increased trend towards delayed child bearing. This cross-sectional study was carried out to find the maternal and perinatal outcome in multiple pregnancies in Gauhati Medical College, Guwahati, Assam over a period of one year. The incidence of multiple pregnancies was found to be 1.27%. 53.6% cases were booked and 43.6% were unbooked. Preterm labour was the commonest complication (74.2%), anaemia being the second most common (45.16%). The maternal morbidity was higher in caesarean section than in vaginal delivery. There was one case of maternal mortality due to septicaemia and peritonitis with severe PIH, who underwent LSCS due to prolonged labour and retained second twin. Judicious use of assisted reproductive technology including ovulation induction can reduce the incidence of multiple pregnancies. Proper antenatal care, health education, prevention of preterm birth, better facilities for premature babies, skilled obstetrician and anaesthetist can improve the maternal and perinatal outcome in multiple pregnancy. As such early detection of multiple pregnancies is an important parameter which enables proper antenatal care and subsequent delivery in a tertiary care centre.

Keywords: Multiple pregnancy, perinatal outcome, prematurity, low birth weight, maternal mortality.

INTRODUCTION

The occurrence of two or more fetuses simultaneously in the uterus is referred to as multiple pregnancies. Teleologically, multiple pregnancies in humans can be regarded as an atavistic trait to which the mother is not optimally suited, with consequent increase in the risks for both the fetuses and the mother. Such is the case, and diagnosis, careful supervision during pregnancy and adequate facilities are required for dealing with a wide range of emergency situations during labour [1].

The past few years have shown a considerable rise in the incidence of multiple pregnancies largely attributed to the advent of assisted reproduction, use of ovulation inducing drugs and an increased trend towards delayed child bearing. The lowest rates are found among women less than 20 years, and women 35-

39 years have the highest rates. The highest burden of twinning globally is seen in Sub Saharan Africa, the rate being 20 per 1000 deliveries, whereas in Europe it is 10 per 1000 deliveries and that in Asia being 5-6 per 1000 deliveries [2].

With such a dramatic increase in the number of multiple pregnancies, there is a corresponding increase in complications for the mother as well as the neonates. There are higher rates of almost every complication such as anaemia, hyperemesis, preterm labour, gestational hypertension, preeclampsia, abruptio placentae, gestational diabetes, polyhydramnios, premature rupture of membranes, post-partum haemorrhage etc. The fetal complications include prematurity, intrauterine growth restriction, malformations, vanishing twins, chromosomal anomalies, conjoined twins, acardiac twin, single fetal

demise, cerebral palsy, growth discordance etc. Thus, multiple pregnancies is associated with a greater risk for both mother and babies and forms a significant share of maternal and perinatal mortality and morbidity. A proper knowledge and vigilance in antepartum, intrapartum as well as postpartum period thus becomes very essential in cases of multiple pregnancies.

MATERIALS AND METHODS

The present study was a cross –sectional study carried out in the Department Of Obstetrics And Gynaecology, Gauhati Medical College and Hospital over a period of 1 year, from May 2016 to April 2017. Approval from the ethical committee was taken prior to taking up of the study.

All women admitted to the antenatal ward and labour room after clinical or ultrasound diagnosis of multiple gestation and women with multiple gestation above 28 weeks of gestation were included in the study. Thorough history was taken including the patients’gravidity, parity, history of multiple pregnancies in previous pregnancy and family history of multiple pregnancy, history of taking ovulation inducing drugs, use of assisted reproductive techniques and past obstetrical history. Proper clinical examination and all routine antenatal investigations were done.

Serial ultrasound was done in selected and feasible cases. Maternal complications like PIH, abruption placenta, PPH, anaemia, preterm labour etc. were noted. Complications to babies like prematurity, IUGR, low birth weight etc. were noted. Both the mother and the babies were followed up until discharge from the hospital

RESULTS

The incidence of multiple pregnancy in this study was found to be 1.27%.Out of 155 multiple pregnancy cases included in the study,150 were twin pregnancies and 5 were triplet pregnancies. The highest incidence of multiple pregnancy was found in 21-25 years age group (42%).65.2% of the women were multigravida and only 34.8% were primigravida. 74.1% cases delivered before 37 weeks, 18.7 % cases between 37-38 weeks and only 7.7% cases reached 38-40 weeks of gestation. Preterm labour was found in 115(74.2%) cases. Anaemia (haemoglobin<10 gram %) was found in 70(45.16%) cases.42 women developed pregnancy induced hypertension. Out of the 5 women with triplet pregnancies,all had preterm labour,3 had anaemia ,2 had preeclampsia,one had hydramnios and one had antepartum haemorrhage (Fig.1).

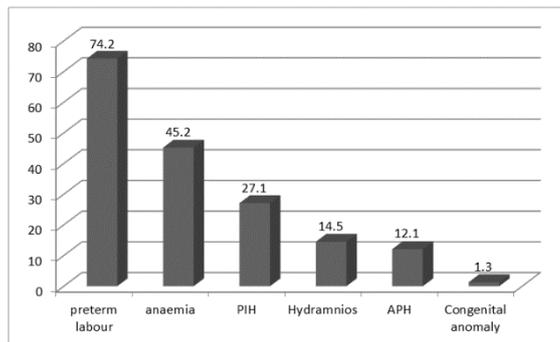


Fig-1: Complications during multiple pregnancies

50.2% cases presented with vertex-vertex presentation, 23.1% with vertex-breech presentation, 17.4% with breech –vertex presentation, 4.2% with

breech-breech, 4% with vertex-transverse and only1% with breech-transverse presentation (Fig.2).

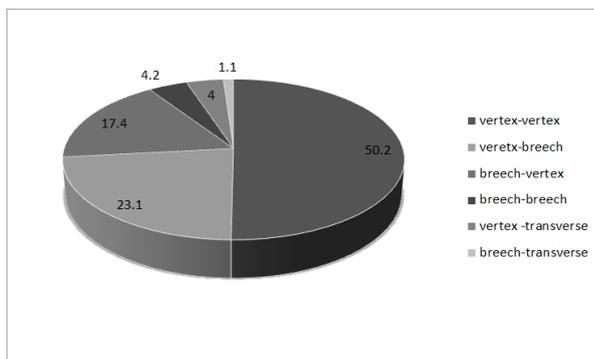


Fig-2: Presentation of foetuses in twin pregnancy

Prematurity was found in 26% cases of first twin and 28% cases of second twin. 30% of first twins and 32% of second twins were found to be low birth weight, while Intrauterine Growth Restriction was seen in 8% cases of first twin and 8.67% cases of the second twin. Most of the babies in the perinatal mortality group were premature. The most common maternal complication was puerperal sepsis followed by maternal anaemia. Only one case of maternal death was found in the study, due to septicaemia and peritonitis with severe PIH, who underwent LSCS due to prolonged labour of the retained second twin.

DISCUSSION

We found the incidence of multiple pregnancy to be 1.27% which almost tallies with the findings of Donnelly [11](1.08), Trivedi and Motashaw [12](1.09), Narvekar and Thakur [13](1.14) and Bangal *et al.* (1.49)[3]. But, it is lower than Sheela *et al.* (2.6%) [4] and Singh *et al.* (1.85%) [5]. this variability in the incidence may be due to variability in the referral system of the patient.

We found the percentage of booked cases to be 53.6%. Mitra and Sikdar[6] found the percentage of booked cases to be 72.9, C.E. Rossiter[7] found it to be 47.6%, Bangal *et al.*[14] found the booked cases to be 76%, Singh *et al.*[15] observed it to be 50.67%. The above differences reflect the failure of utilisation of antenatal facilities in a good number of mothers.

We found the maximum incidence of multiple pregnancies between the agegroup of 21-30 years. Almost similar observations were made by Nayak and Dalal[16], Bangal *et al.*[17] and Singh *et al.*[18]. We found the incidence of preterm labour to be 74.1%, which is consistent with the findings of Bangal *et al.*[19], Sheela *et al.*[20] and Pandey *et al.* [8], who found it to be 84%, 48.3% and 62.58% respectively. In our study, the most common complication was found to be preterm labour, followed by anaemia, followed by PIH which was consistent with the findings of Bangal *et al.*[3], Sheela *et al.*[4], Pandey *et al.*[8] and Singh *et al.*[15].

Sultana *et al.* [9] observed the majority of presentations to be vertex-vertex(48%). Similar results were obtained by Pandey *et al.* and Katke *et al.* [10] who found it to be 61% and 57.812% respectively which was similar to our findings. According to Pandey *et al.* the average interval between the delivery of first and second twin was 16.3 minutes. According to Katke *et al.* 60% of the second twins delivered within 5 minutes of the first one. In the present study, in 45.6% cases, second baby was delivered within 5 minutes of the delivery of the first baby.

The major intranatal complications are shown in the table below:

Table-1: Major intranatal complications

Complications	Bangal <i>et al.</i> [3]	Pandey <i>et al.</i> [8]	Katke <i>et al.</i> [10]	Singh <i>et al.</i> [15]	Present study[6]
PPH		8.33%	1.5385	13.33%	10.5%
APH	8%	2.2%	1.538%	4%	12.67%
PROM	16%		11.538%	10.67%	

In the present study, 21.2% of the first twins and 34% of second twins needed resuscitation, 8.2% of the first and 9% of the second twins had jaundice and birth trauma was seen in 3% cases of second twin only. Prematurity was seen in 26% cases of first twin and 28% cases of second twin. Low birth weight was observed in 30% cases of first twin and 32% cases of second twin and IUGR was seen in 8% cases of first and 8.67% cases of second twin. Sultana *et al.* found that 8% of the babies had IUGR 17% had birth asphyxia and 5% had septicaemia. Bangal *et al.*[3] said that NICU admission was required in 51% cases, 21% cases had neonatal morbidity. As observed by Singh *et al.* [15], 74.67% twins were premature, 9.5% had IUGR, 26.76% were admitted in NICU.

In the present study, perinatal mortality was found in 16% cases. Bangal *et al.*[3], Sheela *et al.* [20], Pandey *et al.*[8] and Singh *et al.*[3] found it to be 17.5%, 12.09%, 9.64% and 10.3% respectively. In the

present study, blood transfusion was needed in 6.48% of women undergoing vaginal delivery and 26.2% in those undergoing caesarean section. Puerperal sepsis was seen in 5.55% women undergoing vaginal delivery and 33.3% in those undergoing LSCS and wound infection was seen in 1.85% cases undergoing vaginal delivery and 28.6% undergoing LSCS. Rabinovici[21] observed that 11.1% cases with caesarean section and 7.4% cases with vaginal delivery need blood transfusion due to anaemia, puerperal pyrexia was found in 40.7% cases with caesarean section and 11.1% with vaginal delivery. Daniel Co-Skupski *et al.*[22] reported 2.4 times more anaemia in mother with twin pregnancy as compared to singleton mothers. Only one case of maternal mortality was found, the incidence being 0.65%.

CONCLUSION

Multiple gestations is becoming a problem of increasing dimensions with a dramatic increase in

numbers due to a trend towards a delayed child bearing and widespread use of assisted reproduction and ovulation inducing drugs. The maternal prognosis is adversely affected by the complications of pregnancy like pre-eclampsia, antepartum and post-partum haemorrhage. The high morbidity and mortality in twins may be due to low birth weight, prematurity, abnormal presentation, lack of antenatal care, complications during labour etc. The fetal prognosis is worse than in a singleton pregnancy mainly because of prematurity and low birth weight. Judicious use of assisted reproductive technology including ovulation induction can reduce the incidence of multiple pregnancy. Proper antenatal care, health education, prevention of preterm birth, better facilities for premature babies, skilled obstetrician and anaesthetist can improve the maternal and perinatal outcome in multiple pregnancies. As such early detection of multiple pregnancies is an important parameter which enables proper antenatal care and subsequent delivery in a tertiary care centre.

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