

CLINICAL STUDY OF MATERNAL COMPLICATIONS IN TWIN PREGNANCY

Sarojini¹, S. Radhamani², Radhika³

HOW TO CITE THIS ARTICLE:

Sarojini, S. Radhamani, Radhika. "Clinical Study of Maternal Complications in Twin Pregnancy". Journal of Evidence Based Medicine and Healthcare; Volume 1, Issue 6, August 2014; Page: 375-381.

ABSTRACT: OBJECTIVES: To study the incidence of maternal complications during antenatal, intrapartum and postpartum period in twin pregnancies. **METHODOLOGY:** A total of 117 women with twin pregnancy were analyzed between the period of September 2005 to February 2007. After applying the inclusion and exclusion criteria these women were analyzed with respect to maternal complications like anemia, hypertensive disorders of pregnancy, hydramnios, antepartum hemorrhage, postpartum hemorrhage etc. which may occur during pregnancy or during labour. **OBSERVATIONS AND RESULTS:** In the present study there was increased incidence of anemia (45.3%), hypertensive disorders of pregnancy (17.9%), antepartum hemorrhage (2.6%), hydramnios (8.5%), preterm labour (97.9%) and PPH (6.8%). **CONCLUSION:** In this study it is observed that above mentioned complications double up in the event of a twin pregnancy compared to singleton pregnancy available data. Early diagnosis of twin pregnancy, regular antenatal visits, identification of complications and planned delivery will help in decreasing maternal morbidity and mortality.

KEYWORDS: Twins; maternal complications; anemia; hypertensive disorders of pregnancy; preterm labour; postpartum hemorrhage.

INTRODUCTION: Twin pregnancy is the simultaneous development of two embryos in the uterus. Twins are inherently different from singletons by their very nature and are at higher risk of maternal and fetal complications.¹

The past two decades have witnessed a sharp rise in the incidence of twin and higher order gestations because of the availability and widespread use of ovulation inducing drugs, and the progress and developments in assisted reproductive technology.²

Twin pregnancy imposes greater demand on maternal physiological system hence increase in complications. Common obstetric complications such as anemia, preeclampsia, antepartum haemorrhage, polyhydramnios, preterm labour and postpartum haemorrhage occur six times more in twin pregnancy than in singletons.

This study intends to know the maternal complications which occur in twin pregnancy, management of labour and outcome with regard to maternal morbidity and mortality.

METHODOLOGY:

MATERIALS AND METHODS: This is a prospective study, done at Cheluvamba hospital, Mysore Medical College and Research Institute, Mysore during the period from September 2005 to February 2007, for 18 months which included 117 subjects. All the twin pregnancies with gestational age ≥ 28 weeks were included irrespective of age, parity and associated diseases and

complications. Detailed histories regarding twinning in family, symptoms of each complication were recorded in study designed format.

Detailed general, systemic and obstetric examination and routine investigations for blood and urine done was recorded in all patients.

Complications during pregnancy such as anemia, hypertensive disorders of pregnancy, hydramnios, antepartum hemorrhage; Intrapartum hand prolapse, cord prolapse and postpartum hemorrhage etc. were noted. Subjects of severe anemia, pre-eclampsia were admitted whenever detected. They were investigated and managed accordingly.

Whenever the twin pregnant women admitted with labour pains, the duration of gestation was recorded, detailed per vaginal examination was done to note the cervical dilatation, presentation, position, the level of the presenting part and the type of the pelvis. Necessary precautions were taken to prevent complications during labour. Labour was accelerated by oxytocin whenever indicated. In cases where there was contraindication for vaginal delivery, they were proceeded for cesarean section. Careful intrapartum monitoring was done. Third stage of labour was managed carefully. Mother and babies were followed till discharge and postnatal complications were noted.

Following statistical methods were applied in the present study to evaluate the data -

1. Cross tabs procedure (Contingency coefficient test)
2. Chi-square test

RESULTS: The following data was obtained from the present study

The incidence of twin pregnancy was about 1.1%. Among the total 117 subjects, 40 (34.2%) were booked, rest were unbooked cases.

From table No.1 and figure 1, it can be observed that in the present series 53 subjects (45.3%) were anemic. Among them 45 subjects (38.5%) were unbooked and Eight were booked subjects (6.8%). Twenty one subjects (17.9%) had hypertensive disorders of pregnancy, among them 20 subjects (17.1%) had pre-eclampsia and one subject had eclampsia (0.9%). Three subjects (2.6%) had antepartum hemorrhage, One subject (0.9%) with central placenta praevia and other two subjects (1.7%) had abruptio placentae.

Ten subjects (8.5%) had Hydramnios out of which eight were monozygous.

Intrapartum and postpartum complications are shown in table No.2 and 3 respectively and in figure No 2. Two subjects (1.7%) had hand prolapse and one subject (0.9%) ended up with retained placenta which was removed manually under general anesthesia. Eight subjects (6.8%) had atonic PPH, all managed conservatively by administering uterotonic drugs.

As shown in table No. 4, two subjects (1.7%) had sub involution of uterus and one subject (0.9%) had failed lactation. Subinvolution subjects were treated with Methergin tablets.

In the present study 56 subjects (47.9%) had delivered before 37 completed weeks of gestation accounting to nearly half of women ending up with preterm labour as shown in table No. 5.

ORIGINAL ARTICLE

DISCUSSION: The incidence of anemia in the present study is 45.3 % where as in various other studies it ranged from 29.5% - 61%³⁻⁷ as shown in table No. 6. The incidence of anemia in singleton pregnancy is 18%-21%^{1, 8} which doubled in present study of twin pregnancy.

17.9% women developed hypertensive disorders of pregnancy where as it varies from 18% - 36.25% in various studies^{6, 9-11} as shown in table No.7. Incidence is much higher than seen in singleton pregnancy which is around 12%. Antepartum hemorrhage occurred in 2.6% which is much higher than in singleton pregnancy which is around 0.49%-1.8%.¹³

Incidence of polyhydramnios is 8.5% and is comparable with other studies in table No. 8.

47.9% of women had preterm labour which is on par with other studies,^{7,10} this is alarmingly higher compared to singleton pregnancy which is about 5-10%.⁸

The incidence of hand prolapse in the present study is comparable with other authors.⁷ Out of 117 subjects, Two subjects had hand prolapse. In one subject it was in the first baby of the twin and another one subject had it in the second baby of the twin. Both delivered by cesarean section. The incidence of cord prolapse and retained placenta in present series are almost same as that in other series.

The incidence of postpartum hemorrhage is 6.8% which is lower than other studies. The reduced incidence of PPH is due to the prophylactic measures taken in anticipation, especially prophylactic methergine given during the delivery of anterior shoulder of second twin. Comparison of antepartum and postpartum complications with various author's studies is shown in table No. 9.

CONCLUSION: It is observed that in this study all the complications studied here; double up in the event of a twin pregnancy compared to singleton pregnancy. Early diagnosis of twin pregnancy, regular antenatal visits, identification or anticipation of complications and planned delivery will help to decrease the maternal morbidity and mortality.

REFERENCES:

1. Multifetal gestation. In: Cunningham FG, Leveno KJ, Bloom SL, Haulh JC, Gilstrap LC, Wenstrom KD, editors. Williams Textbook of Obstetrics, 22nd ed. New York: McGraw-Hill, 20. pp. 911-48.
2. Multiple fetal gestations. In: Daftary SN, Desai SV, editors. Textbook of selected topics in obstetrics and Gynaecology-2, for postgraduates and practitioners. New Delhi: BI Publications Pvt. Ltd; 19. pp. 52-72.
3. Jacob, Bhargava. Review of 291 cases of multiple pregnancy. J of Obstet and Gynecol. 1973; 23: 302-11.
4. Mitra, Sikdar. Clinical study of twin pregnancy. J of ObstetGynecol1986; (3): 363.
5. Bhatia G. Twin pregnancy of 500 cases. Obstet Gynecol 1978; 57: 25.
6. Spellacy WN, Handler A, Ferre CD. A case control study of 1253 twin pregnancies from a 1982-1987 perinatal data base. Obstet Gynecol 1990; 75: 168.
7. Rani R. Perinatal mortality in twin pregnancy – A retrospective study. Journal of Obstetrics and Gynecology of India 1995; 30: 720-30.

ORIGINAL ARTICLE

8. Crowther CA, Dodd JM. Multiple pregnancy. In: James PJ, Steer CP, Gorik WB, editors, Textbook of High risk pregnancy-management Options. 4th ed. Philadelphia: Saunders; page no 865-867.
9. Koacs BW, Krischbaum FH, Paul RH. Twin gestation-Antenatal care and Complications. Obstetrics and Gynecology 1989; 74: 313-7.
10. Tempe A. Twin versus singleton pregnancies by a comparison of morbidity and mortality. Journal of obstetrics and Gynecology of India 1993; 43: 518-23
11. Purkar S. Factors affecting perinatal mortality in twin pregnancy. Journal of Obstetrics and Gynecology 1984; 34: 1021-4.
12. American College of obstetricians and gynecologists: Diagnosis and management of preeclampsia and eclampsia: ACOG Practice Bulletin no 33. ObstetGynecol 2002; 99: 159-167.
13. Rasmussen S, Irgrens KM, Dalaker K: the occurrence of placental abruption. Acta Obstet Gynecol Scand 1996; 75: 222-228.
14. Narvekar NM, Thakur SS. Labour and its outcome in 53 cases of twin pregnancy. Journal of Obstetrics and Gynecology of India; 1998. pp. 581-4.

Maternal complications	Number of subjects	Percentage	χ^2 value	p-value
Anemia	53	45.3	1.034	0.309
Hypertensive disorders of pregnancy	21	17.9	48.077	0.000
Hydramnios	10	8.5	97.855	0.000
Antepartum haemorrhage	3	2.6	109.13	0.000
Preterm labour	56	47.9	6.231	0.013

Table 1: Antepartum complications

Type	Number of subjects	Percentage
Cord prolapse	1	0.9
Hand prolapse	2	1.7
Retained placenta	1	0.9

Table 2: Intrapartum complications

Type	Number of subjects	Percentage
PPH	8	6.8

Table 3: Postpartum complications

ORIGINAL ARTICLE

Type	Number of subjects	Percentage
Subinvolution	02	1.7
Failure of lactation	01	0.9

Table 4: Postnatal morbidity

GA (weeks)	Number of subjects	Percentage
28-32	22	18.8
33-36	34	29.1
≥ 37 weeks	61	52.1

χ^2 test value = 20.462; p-value = 0.000 (Highly significant)

Table 5: Duration of gestation at the time of delivery

Studies	Percentage
Rani R ⁷	61
Mitra and Sikdar ⁴	35.6
Jacob and Bhargava ³	29.5
Bhatia ⁵	52.4
Spellacy et al. ⁶	37.2
Present series	45.3

Table 6: Comparison of incidence of anemia

Studies	Percentage
Koacs and associates (1989) ⁹	23.2
Spellacy et al. (1990) ⁶	18
Tempe (1993) ¹⁰	36.25
Shola Purkar ¹¹	18
Present series	17.9

Table 7: Comparison of incidence of hypertensive disorders of pregnancy

ORIGINAL ARTICLE

Studies	Percentage
Bhatia ⁵	10.5
Jacob and Bhargava ³	9.6
Mitra and Sikdar ⁴	11.7
Spellacy et al. ⁶	12.03
Present series	8.5

Table 8: Hydramnios incidence as quoted by various authors

	PPH	Hand prolapsed	Cord prolapsed	Retained placenta
Rani R ⁷	20.32%	2.14%	-	-
Tempe ¹⁰	-	-	-	-
Narvekar ¹⁴	22%	-	-	-
Shola Purkar ¹¹	-	-	-	-
Jacob and Bhargava ³	-	-	1.0%	1.2%
Mitra and Sikdar ⁴	10%	-	1.25%	-
Present series	6.8%	1.7%	0.9%	0.9%

Table 9: Incidence of intrapartum and postpartum complications as per different authors

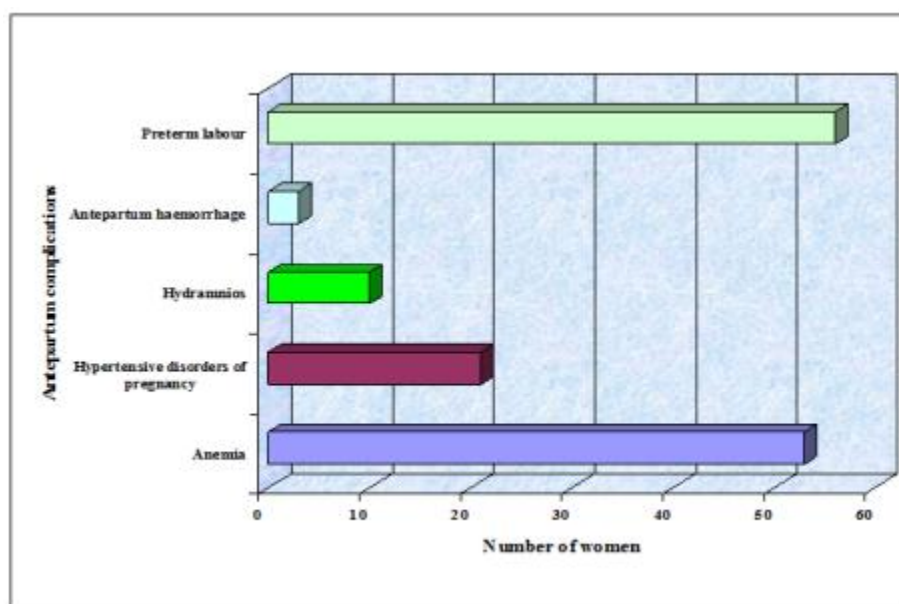


Figure 1: Antepartum complications

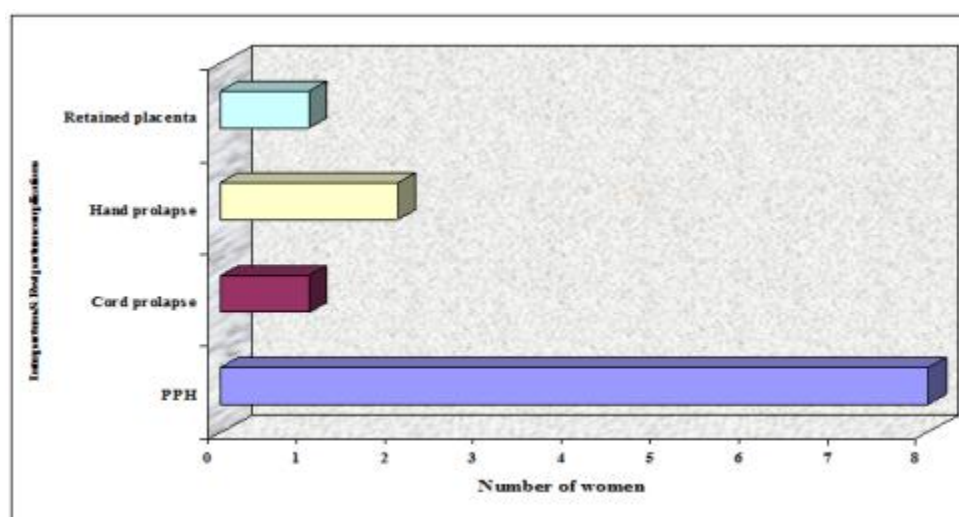


Figure 2: Intrapartum and postpartum complications

AUTHORS:

1. Sarojini
2. S. Radhamani
3. Radhika

PARTICULARS OF CONTRIBUTORS:

1. Assistant Professor, Department of Obstetrics & Gynaecology, Bangalore Medical College and Research Institute, Bangalore.
2. Professor, Department of Obstetrics & Gynaecology, Mysore Medical College and Research Institute, Mysore.
3. Assistant Professor, Department of Obstetrics & Gynaecology, Bangalore Medical College and Research Institute, Bangalore.

NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Sarojini,
No. 55, 11th Main,
Opposite Cluny Convent,
Malleshwaram, Bangalore – 560003.
E-mail: prabhusaroj@gmail.com

Date of Submission: 31/07/2014.
Date of Peer Review: 01/08/2014.
Date of Acceptance: 05/08/2014.
Date of Publishing: 11/08/2014.