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ORIGINAL ARTICLE

THE OUTCOME OF PREGNANCY IN PATIENTS WITH THREATENED ABORTION

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ABSTRACT: OBJECTIVE: To assess the Outcome of pregnancy in patients with threatened abortion. **METHODS:** A Prospective observational study was done on 106 pregnant women with threatened abortion. Out comes in the form of antenatal complications, mode of delivery and postnatal complications were noted. Analysis of the data was done using SPSS version 13. **RESULTS:** In the study of 106 patients 18% had spontaneous abortion. Pre-labour rupture of membranes were seen in 20% of patients and 21% had preterm labour. Threatened abortion did not affect mode of delivery. PPROM, preterm births were more in women presenting with first trimester bleeding; PIH, PROM, and postpartum complications were more in women presenting beyond 20 weeks gestation though statistically not significant. 13.2% of women had heavy bleeding at admission out of which 50% aborted subsequently – significantly higher than the light bleeding group. **CONCLUSION:** The overall maternal and perinatal outcome in women with threatened abortion is suboptimal. Women with heavy bleeding are more likely to abort than women with light bleeding. Among the prognostic factors, only the amount of bleeding had significant prognostic accuracy.

KEYWORDS: Abortion, Vaginal bleeding, Pregnancy.

INTRODUCTION: Abortion is the most common complication of pregnancy. Approximately 50% of all conceptions and 15-20% of clinically recognized pregnancies end in abortion.[1] Vaginal bleeding occurs in approximately 20% of clinically diagnosed pregnancies. It is generally agreed that vaginal bleeding during early pregnancy poses a definite threat to the developing embryo and is often followed shortly by termination of pregnancy[2]. However in many cases of threatened abortion pregnancy continues uninterrupted until term. The present study is an endeavor to have an in-depth insight into the clinical implications of threatened abortion in terms of maternal and fetal outcome.

MATERIALS AND METHODS: The present study was carried out in the urban maternity health Centre, Mysore between August 2012 and July 2014.

Pregnant women presenting with bleeding per vaginum with or without abdominal pain with a closed cervical os, with an ultrasonographically confirmed live foetus, from six to twenty eight weeks of gestation were included in the study. Those with multifetal gestation were excluded. All patients included in the study were hospitalized. After hospitalization, a detailed history including age, socioeconomic status, amount of bleeding, period of gestation and past reproductive performance was obtained. Bleeding per vaginum equal to menstruation was classified as heavy bleeding and mild bleeding or spotting as light bleeding. Following history per

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abdominal examination was done to assess the size of the uterus and to look for signs of intraperitoneal haemorrhage like tenderness, bloating, free fluid, and rigidity to rule out ectopic pregnancy. Local examination of external genitalia and per speculum examination of cervix and vagina was done to rule out local causes of bleeding. Digital and bimanual examination of cervix and uterus was done to note the size and consistency of uterus, and the presence or absence of uterine, forniceal or cervical movement tenderness. After clinical examination basic investigations like haemoglobin, routine and microscopic examination of urine, blood group and Rh typing were done. Ultrasonography was done in all patients to confirm intrauterine pregnancy, calculate the gestational age, confirm cardiac activity, identify sub chorionic hematoma and localize the placenta.

During their hospital stay, patients were treated according to our hospital protocol i.e. bed rest and sedation. They were not prescribed any drugs or hormones. These patients were followed up prospectively till delivery or abortion. Follow up included documentation of antenatal complications like spontaneous abortion, pregnancy induced hypertension (PIH), preeclampsia, eclampsia, placenta praevia, placental abruption, preterm premature rupture of membranes (PPROM), premature rupture of membrane (PROM), preterm labour and malpresentation. Intrapartum details like gestational age at delivery, mode of delivery and third stage complications such as postpartum haemorrhage (PPH) and retained placenta were noted. When patients delivered elsewhere data was obtained through telephonic follow up. Analysis of the data was done using SPSS version 13.

RESULTS: A total of 106 women were included in the study. The age of the patients recruited in the study ranged from 19 to 35 years. More than 80% of the patients were aged between 21 and 30. Primigravidae constituted 36.8% of patients. Twelve patients were pregnant for the fourth time or more. 45 patients with threatened abortion presented in the first trimester. Twenty two patients (20.8%) presented beyond 20 weeks gestation.

92 of 106 patients experienced light bleeding and remaining 13.2% had heavy bleeding i.e. bleeding equal to menstruation. A total of 28 patients had low implantation or low lying placenta in ultrasonography. Majority of the patients (86% of the 28) having low lying placenta diagnosed by USG at admission were in the second trimester.

The most common antenatal complication was preterm labour (21%) premature rupture of membranes (18.9%) followed by spontaneous abortion (17.9%). None of the patients had abruption placentae or eclampsia (Table 1).

Majority of the patients had spontaneous vaginal delivery. The abortion rate was 17.9%. One patient underwent medical termination for anomalous baby at 24 weeks. 13.2% of patients were delivered by caesarean section (Table 2). Only three patients had third stage complications of which two had postpartum haemorrhage and one had retained placenta.

From the Table-3 it is evident that PPROM, preterm babies were more in ≤12 weeks pregnancy group. Increased incidence of PIH, PROM, and postpartum complications was seen in ≥ 21 weeks pregnancy group. But none of these findings were statistically significant.

Table 4 shows the correlation between the amount of bleeding at admission and the outcome. 50% of patients having heavy bleeding aborted compared to 13% in those with light

bleeding which is statistically significant. PROM, preterm labour and operative delivery were not significantly different between the two groups.

DISCUSSION: A frequent cause of haemorrhage during the first half of pregnancy is threatened abortion. This condition occurs in 16% of all pregnancies.[3] It is difficult to compare the outcomes of threatened abortion because different studies have used different definition for threatened abortion. Some authors consider patients having uterine contractions without haemorrhage also as threatened abortion. But others deem haemorrhage during pregnancy with closed cervical os as threatened abortion. However, this definition may include cases of missed abortion. Demonstration of fetal cardiac activity by USG eliminates this pitfall. Hence, in the present study all pregnant women with bleeding per vaginum with closed cervical os and ultrasound showing good cardiac activity were included.

Many studies reported that patients younger than 20 years and older than 30 years had increased frequency of abortion, prematurity and perinatal mortality.[4,5,6]

In our study 42.5% of the patients presented in the first trimester. Around 20% of the patients had first episode of bleeding beyond 20 weeks gestation. When outcome of pregnancy was analysed according to the gestational age at presentation, perinatal complications like preterm births (22%), asphyxia (15.5%) were more in those with <12 weeks of gestation. These findings correlate with the study by Funderburk et al,[7] which showed that bleeding in early pregnancy increases premature birth and neonatal complications.

Johannsen[6] observed that abortion rate was less and preeclampsia, PROM, post-partum complications were more common in patients having threatened abortion at >21 weeks. Soori et al[5] showed that the frequency of low birth weight was significantly higher in women with bleeding in the second trimester (11.7%). Likewise, in the present study the rates of preeclampsia, PROM, and post-partum complications were increased, though not significantly, in the group presenting after 20 weeks.

Thirty three percent of the patients who had low lying placenta at admission were ultimately diagnosed to have placenta previa at the time of delivery by ultrasonography. In contrast to this, only 1.2% of the patients who had normal placental position at admission were diagnosed with placenta previa at delivery. Das et al,[8] reported an increased risk for low lying placenta among women with threatened miscarriage, but found no difference in the placental location when compared with control subjects by 36 weeks of gestation.

With respect to antenatal complications in threatened abortion in this study spontaneous abortion happened in17.9% of patients, which is similar to study reported by Siddiqi et al[9,] but Tongsong et al[10] and Tannirandorn et al[11] showed an abortion rate of 5.5%, and 3.4% respectively. No difference in the incidence of PIH and preeclampsia in both threatened abortion and control group.[12,13] Wijesiriwardana et al[13] studied 39,260 patients retrospectively, and concluded that antepartum haemorrhage complicated 15.5% of patients with threatened abortion and 9.1% of controls. The incidence of placenta previa was higher but not significantly in the threatened miscarriage group [5,14]

Studies have also shown increased incidence of PROM and PPROM in cases of threatened abortion.[3,15,16] It is hypothesized that disruption of the chorio-amniotic plane by the adjacent

haemorrhage may make the membranes more susceptible to rupture. Alternatively, the prolonged presence of blood may act as a nidus for intrauterine infection. Persistent or recurrent placental haemorrhage could also stimulate subclinical uterine contractions that result in cervical change and eventually ruptured membranes. Other studies also have shown two fold increased incidence of preterm delivery in threatened abortion.[3,13,17,18]

Our study endorses the study by Joshua et al[3] which found no association of threatened abortion with increased caesarean delivery but Wijesiriwardana et al[13] showed a higher incidence of elective caesarean delivery among threatened abortion group due to placenta previa and malpresentations.

In the present study, when outcome of pregnancy was compared with the amount of bleeding, the only statistically significant finding was the increased occurrence of spontaneous abortion (50% vs. 13%) in heavy bleeding group. Other complications like PROM, operative delivery, preterm births appeared more in those with light bleeding, but were statistically not significant. Joshua et al[3] concluded that threatened abortion patients likely to experience a spontaneous loss before 24 weeks of gestation (odds ratio, 2.5 and 4.2 respectively) and caesarean delivery (odds ratio, 1.1 and 1.4 respectively) irrespective of amount of bleeding. Light bleeding subjects were more likely to have preeclampsia (odds ratio, 1.5), preterm delivery (odds ratio, 1.3), and placental abruption (odds ratio, 1.6). Heavy vaginal bleeding subjects were more likely to have intrauterine growth restriction (odds ratio, 2.6), preterm delivery (odds ratio, 3.0), preterm premature rupture of membranes (odds ratio, 3.2), and placental abruption (odds ratio, 3.6).

The overall pregnancy outcome in women with threatened abortion is suboptimal.

Women with heavy bleeding are more likely to abort than women with light bleeding.

Among the prognostic factors, only the amount of bleeding had significant prognostic accuracy.

CONCLUSION: The overall maternal and perinatal outcome in women with threatened abortion is suboptimal. Women with heavy bleeding are more likely to abort than women with light bleeding. Among the prognostic factors, only the amount of bleeding had significant prognostic accuracy.

REFERENCES:

1. James, Steer, Gonik, editors. High risk pregnancy. Bleeding and pain in early pregnancy. 3rd ed. Pennsylvania: Elseivier; 2006.
2. Farrel T, Owen P. The significance of extrachorionic membrane separation in threatened miscarriage. Br J Obstet Gynaecol.1996; 103: 926-28.
3. Joshua.LW et al. Threatened abortion: a risk factor for poor pregnancy outcome, a population based screening study. AJOG.2004; 190: 745-50.
4. Chung TKH et al. Threatened abortion: Prediction of viability band on signs and symptoms. Aust NZ Obstet Gynaecol 1999; 34(4) 443-47.
5. Soori ALH, Oja H, Wenot L. Perinatal outcome in pregnancies complicated by vaginal bleeding. BJOG 1992; 99: 959-63.

6. Johannsen.A. The prognosis of threatened abortion. Acta Obstet Gynaecol.1970; 49: 89-93.
7. Funderberk. SJ, Guthckie D, Meldrum D. Outcome of pregnancies complicated by early vaginal bleeding. BJOG 1980; 87: 100-5.
8. Das AG, Gopalan S, Dhaliwal LK. Fetal growth and perinatal outcome of pregnancies continuing after threatened abortion. Aust Nz J Obstet Gynaecol, 1996 May; 36(2): 135-9.
9. Siddiqi TA, Caligaris JT, Midovanik M, Holroyde JC, Mimouni F. Rate of spontaneous abortion after first trimester sonographic demonstration of fetal cardiac activity. Am J Perinatol.1998 Jan; 5(1): 1-4.
10. TongSong.T, SRisomboon J, Wanapirak C, Sirichotiyakul S, Pongsatha S, Polsrisuthikul T. Pregnancy outcome of threatened abortion with demonstrable fetal activity; a cohort study.J Obstet Gynaecol 1995Aug; 21(4): 331-5.
11. Tannirandorn.Y, Sangasavang S, Manotaya S, Verpairojkit B, Samritpradit P, Charoenvidhya D. Fetal loss in threatened abortion after embryonic/fetal heart activity.Int J Obstet Gynaecol. 2003 Jun; 81(3): 263-6.
12. Cepti I, Bese T, Ocal P, Bupak E, Idic M and Aksu F. Significance of yolk sac measurements with vaginal sonography in the first trimester in the prediction of pregnancy outcome. Acta Obstet Gynaecol Scand. 1997; 76: 969-72.
13. Wijesiriwardhana A, Bhattacharya S, Shetty A, Smith N. Obstetric outcome in women with threatened miscarriage in the first trimester. Obstet Gynaecol March 2006; 107(3): 557-62.
14. Chittacharoen A, Herabutya Y. Slow fetal heart rate may predict pregnancy outcome in first trimester threatened abortion. Fertil Stocil 2004; 82(1): 227-9.
15. Verma.SK, Premi HK, Gupta TV, Thakur S, Gupta KB, Randhawa I. Perinatal outcome of pregnancies complicated by threatened abortion. J Indian Med Assoc. Nov 1994; 92(11): 364-5.
16. Hertz JB, Heisterberg L. The outcome of pregnancy after threatened abortion. Acta Obstet GynaecolScand 1985; 64: 151-6.
17. Williams MA, Mittendorf R, Lieberman E, and Monson RR. Adverse infant outcomes associated with first-trimester vaginal bleeding. Obstetrics & Gynecology.1991; 78: 14-18.
18. Batzofin JH, Fielding WL, and Friedman EA. Effect of vaginal bleeding in early pregnancy on outcome. Obstetrics & Gynecology.1984; 63: 5.

Antenatal complications	Number of patients n = 106, (%)
Spontaneous abortion	19(17.9)
PIH/ Preeclampsia	10(9.4)
Placenta previa	8(7.5)
Abruptio placentae	0
PPROM	6(5.7)
PROM	14(13.2)
Preterm labour	21(20.6)
IUGR	3(2.8)
Malpresentation	5(4.7)

Table 1: Maternal antenatal complications

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Mode of delivery	Number of patients n = 106, (%)
Spontaneous abortion	19(17.9)
Spontaneous vaginal delivery	70(66)
Instrumental delivery	1(0.9)
Vaginal breech delivery	2(1.9)
Emergency LSCS	10(9.4)
Elective LSCS	4(3.8)

Table 2: Obstetric outcome

	≤12weeks (n=45)	13 -20 weeks (n=39)	≥ 21weeks (n=22)	p value
Spontaneous abortion	9(20%)	6(15.3%)	4(18.1%)	0.859
PIH preeclampsia	3(6.6%)	2(5.1%)	5(22.7%)	0.055
Placenta previa	3(6.6%)	3(7.6%)	2(9%)	0.939
PPROM	4(8.8%)	1(2.5%)	1(4.5%)	0.443
PROM	5(11.1%)	5(12.8%)	4(18.1%)	0.722
IUGR	1(2.2%)	1(2.5%)	1(4.5%)	0.858
Malpresentation	1(2.2%)	3(7.6%)	1(4.5%)	0.498
Operative delivery	6(13.3%)	5(12.8%)	4(18.1%)	0.829
Post natal complication	1(2.2%)	0	2(9%)	0.115

Table 3: Comparison of pregnancy outcome with period of gestation at admission

	Light bleeding (n=92)	Heavy bleeding (n=14)	p value
Spontaneous abortion	12(13%)	7(50%)	0.003
PIH preeclampsia	9(9.7%)	1(7.1%)	1.000
Placenta previa	7(7.6%)	1(7.1%)	1.000
PPROM	5(5.4%)	1(7.1%)	0.582
PROM	13(14.1%)	1(7.1%)	0.688
IUGR	2(2.17%)	1(7.1%)	0.340
Malpresentation	5(5.4%)	0	1.000
Operative delivery	14(15.2%)	1(7.1%)	0.680
Post-natal complication	2(2.1%)	1(7.1%)	0.340

Table 4: Comparison of amount of bleeding with pregnancy outcome

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