Outcome of Pregnancy Complicated by Threatened Abortion

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ABSTRACT

Background

Threatened abortion is the most common complication in the first half of pregnancy. Most of these pregnancies continue to term with or without treatment. Spontaneous abortion occurs in less than 30% of these women. Threatened abortion had been shown to be associated with increased incidence of antepartum haemorrhage, preterm labour and intra uterine growth retardation.

Objective

This study was to asses the outcome of threatened abortion following treatment.

Methods

This prospective study was carried out in Dhulikhel Hospital - Kathmandu University Hospital from January 2009 till May 2010. Total 70 cases of threatened abortion were selected, managed with complete bed rest till 48 hrs of cessation of bleeding, folic acid supplementation, uterine sedative, and hormonal treatment till 28 weeks of gestation. Ultrasonogram was performed for diagnosis and to detect the presence of subchorionic hematoma. Patients were followed up until spontaneous abortion or up to delivery of the fetus. The measures used for the analysis were maternal age, parity, gestational age at the time of presentation, previous abortions, presence of subchorionic hematoma, complete abortion, continuation of pregnancy, antepartum hemorrhage, intrauterine growth retardation and intrauterine death of fetus.

Results

Out of 70 cases subchorionic haematoma was found in 30 (42.9%) cases. There were 12 (17.1%) patients who spontaneously aborted after diagnosis of threatened abortion during hospital stay, 5 (7.1%) aborted on subsequent visits while 53 (75.8%) continued pregnancy till term. Among those who continued pregnancy intrauterine growth retardation was seen in 7 (13.2%), antepartum hemorrhage in 4 (7.5%), preterm premature rupture of membrane in 3 (5.66%) and IUD in 3 (5.66%). Spontaneous abortion was found more in cases with subchorionic hematoma of size more than 20 cm^2.

Conclusion

In cases of threatened abortion with or without the presence of subchorionic hematoma, prognostic outcome is better following treatment with bed rest, uterine sedatives, folic acid supplementation and hormonal treatment.

KEY WORDS

abortion, pregnancy outcome, subchorionic hematoma, threatened abortion.

INTRODUCTION

Threatened Abortion is the most common complication in the first half of pregnancy. Its incidence varies between 20-25%.[1]The main reasons for vaginal bleeding in early pregnancy are subchorionic haemorrhage, subchorionic haematoma and rupture of a marginal placental sinus.[2] In majority of the cases of threatened abortion the bleeding is of unknown origin and usually slight. Most of these pregnancies continue to term with or without treatment. Spontaneous abortion occurs in less than 30% of the women who experience threatened abortion. [3]

The symptoms and signs of threatened abortion are so variable that the outcome of the pregnancy cannot be reliably predicted by clinical features at presentation. Thus various biochemical and biophysical tests have been applied extensively in attempts to improve the accuracy of predicting the outcome of these pregnancies.[4] Threatened

abortions have been shown to be associated with increased incidence of antepartum haemorrhage, preterm labor and intra uterine growth retardation.[5]

We present here the prospective study of threatened abortion in first half of pregnancy and its outcome following treatment. We also sought to determine the possible relationship of pregnancy outcome to presence and absence of subchorionic hematoma, and period of gestation at the time of presentation.

METHODS

This prospective study was performed in the department of obstetrics and gynecology, Dhulikhel Hospital - Kathmandu University Hospital from January 2009 till May 2010. 70 ladies in their first half of pregnancy with per vaginal bleeding were included in the study. Diagnosis of threatened abortion was confirmed by history, clinical examination and ultrasound finding of cardiac activity.

Treatment included complete bed rest up to 48 hours after cessation of bleeding, folic acid supplementation, a sedative: phenobarbitone and hormonal treatment of injected human chorionic gonadotrophin (hCG) up to 12 weeks, and injected 17α-hydroxy progesterone after 12 weeks was given routinely and continued till 28 weeks of gestation. Ultrasonogram performed during admission for diagnosis, calculation of gestational age and presence and absence of subchorionic hematoma. Ultrasonogram was repeated after 3rd day of 1st scan to evaluate the size of hematoma. Clinical follow up of the patient was done until spontaneous abortion or up to delivery of the fetus.

The measures used for the analysis were maternal age, parity, gestational age at the time of presentation, previous abortions, presence or absence of subchorionic hemorrhage, complete abortion, continuation of pregnancy, antepartum hemorrhage, intrauterine growth retardation and intrauterine death of fetus. Primary outcome measures were spontaneous abortion and continuation of pregnancy till term. Statistical analysis was performed with the use software SPSS version 16.

RESULTS

Out of 70 cases, 32 (45.7%) were primigravida, 35 (50%) were multigravida and other 3 (4.3%) were grand multigravida. The mean age being 24.63±4.894 years SD and mean period of gestation at the time of presentation was 12.84±5.22 SD. As per the ethnic group, threatened abortion was most common in Bhramin/ Chhetri (47.1%), followed by Newar (30%), Tamang (11.4%) and indigenous (11.4%).

Among total, subchorionic haematoma was found in 30 (42.9%) cases.

There were 12 (17.1%) patient who spontaneously aborted after diagnosis of threatened abortion during hospital stay, other 5 (7.1%) aborted on subsequent visits while 53 (75.8%) continued pregnancy till term.

Table 1. Obstetrical outcome according to period of gestation during presentation

POG	Complete abortion during hospital stay	Continuation of pregnancy at the time of discharge	Complete abortion on subsequent follow up
<12	9(24.30%)	28(75.70%)	4(11%)
13-16	2(9%)	19(86.5)%	1(4.5)%
17-20	1(8.3)%	11(91.7%)	0.00%

Table 2. Obstetrical outcome among 53 cases who continued pregnancy

Obstetrical outcome	Number	Percent
Term delivery	39	73.58
Preterm delivery	11	20.75
Intrauterine Growth Retardation	7	13.2
Ante-Partum Hemorrhage	4	7.54
Intra Uterine Death	3	5.66
Preterm Premature Rupture of Membrane	3	5.66

Table 3. Incidence of spontaneous abortion in relation to size of subchorionic hemorrhage

Size of SCH	Spontaneous abortion	Continuation of pregnancy	Total
<4cm^2	2(14.3%)	12(85.7%)	14(100%)
4-20 cm^2	2(25%)	6(75%)	8(100%)
>20 cm^2	4(50%)	4(50%)	8(100%)

Table 4. Incidence of Intrauterine growth retardation (IUGR) by presence of subchorionic hemorrhage

	IUGR	Percent
sub chorionic hemorrhage present	4	57.1
sub chorionic hemorrhage absent	3	42.9

DISCUSSION

Ultrasonographically proven subchorionic hematoma has been associated with threatened abortion. In the present study, the incidence of subchorionic hematoma is 43% and continuation of pregnancy is seen more with hematoma of less than 4 cm^2 size. Incidence of subchorionic hematoma varies from 4% to 48% in a study done by Pearlstone et al which is almost similar to this.[6] Finding of subchorionic hematoma may not always be of significance. The volume of hematoma influences the prognosis. Many times it may

be only an incidental finding, therefore when hematoma is small and asymptomatic it may not be of clinical significance.[7] However, the larger hematomas are of significance and may be associated with poorer outcomes.[8]

There is no definitive evidence that bed rest affects the course of pregnancy. Absolute bed rest was provided in this study for only up to 48 hours after the last bleeding episode. Study done by Ben-Haroush showed that the women who were on bed rest had low miscarriage rate of 9.9% and more term delivery rate compared to 23.3% of women who continued their usual activities.[9] Another retrospective study showed that even with rest, miscarriage can happen up to 16% of times as compared to women who did not rest. [10]

All the patients admitted with threatened abortion received injection hCG if their period of gestation was less than 12 weeks and women with pregnancies of more than 12 weeks, received hydroxyprogesterone weekly till 28th week of pregnancy. Even with this, premature delivery took place in 11(20%) women, similar to results of a study done by Igor Hudic et al.[11]

Sanches-Ramos et al. published a randomized study among 1339 patients to establish the efficacy of progesterone therapy on prevention of premature deliveries. They showed the therapy lowered the risk of premature delivery and delivery of newborns with low birth weight in patients with history of early miscarriage and threatened miscarriage in the current pregnancy.[12] Similar results were also noted in a study done by Choi BC and Sfakianki and Norwitz et al. [13,14]

We have not investigated the free beta human chorionic gonadotrophin level to see how it correlates with the prognosis of threatened abortion. In a study done by M. A. H. A. I-Sebai et al. beta human chorionic gonadotrophin level were significantly lower in threatened miscarriage group. They also presumed that this investigation in early pregnancy will be valuable in diagnosing early pregnancy failure and the long term prognosis of viability.[15]

IUGR is associated with threatened abortion. Infants of patients with heavy bleeding had nearly a 200 gm difference in birth weight compared with control infants after accounting for preterm delivery.[16] Haddow et al. reported an increased risk for low birth weight in pregnancies that were complicated by vaginal bleeding.[17]

Joshua L Weiss hypothesized for the preterm premature rupture of membrane that disruption of chorionic amniotic plane by adjacent hemorrhage may make the membrane more susceptible to rupture. Alternatively, the prolonged presence of blood may act as a nidus for intrauterine infection. It stimulates uterine contraction that results in cervical change and eventual rupture of the membrane.[16]

Placenta praevia is a common cause of obstetrical vaginal bleeding. Bleeding in the 1st half of pregnancy could be a reflection of pregnancy. Das et al reported an increased risk for a low lying placenta among patients with threatened abortion but reported there is no difference in placental location compared to controlled subjects by 36 weeks of gestation.[18]

CONCLUSION

Threatened abortion occurs often and is a serious emotional burden for women. Bleeding in the first half of the pregnancy with or without presence of hematoma may be associated with poor pregnancy outcome. Bed rest, uterine sedatives and hormonal treatment given can bring better prognostic outcome. Investigations that determine the diagnostic and prognostic parameters are of value. Further large prospective studies are needed to find the best predictors for better outcome

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