Maternal and Perinatal Outcomes in Pregnant Women with First Trimester Vaginal Bleeding

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Abstract

Objective: To study the pregnancy outcomes in first trimester vaginal bleeding.

Materials and methods: This cross sectional study was done on 60 pregnant women with first trimester vaginal bleeding referring to university hospitals affiliated to Islamic Azad University, Tehran, Iran. All women were evaluated for the outcomes including abortion, preterm rapture of membranes, preterm labor, second and third trimester vaginal bleeding, low birth weight and intra uterine growth retardation and the mode of delivery. Data were analyzed using SPSS- 11.

Results: Placenta accreta, second trimester bleeding and preterm labor were significantly more prevalent in pregnant women with first trimester bleeding ($P \leq 0.05$).

Conclusion: According to results of present study vaginal bleeding in first trimester of pregnancy may predict further maternal and fetal complications. We recommend training pregnant women regarding those complications and their prevention.

Keywords: Vaginal bleeding, Pregnancy outcomes, First trimester

Introduction

Vaginal bleeding in the first trimester of pregnancy is associated with spontaneous abortion /miscarriage, ectopicimplantation, hydatidiform mole, preterm delivery, and lowbirth weight. It has been reported that 50% of women presenting to an emergency room with vaginal bleeding willgo on to have a normal pregnancy (1). Vaginal bleeding is a relatively common event in the first trimester, reported to occur in 15% to 25% of all pregnancies (1- 10). Meta-analyses indicate that vaginal bleeding is associated with a twofold increased risk of other complications during that pregnancy (11). Vaginal bleeding can be a normal sign of implantation of the pregnancy, may herald the initiation of spontaneous abortion, or may be the sign of a pathologic condition such as ectopic pregnancy or gestational trophoblastic disease. Vaginal bleeding after confirmation with a positive pregnancy test requires further assessment in order to identify normal or abnormal development of the pregnancy or a pathologic condition that requires intervention (12, 13). This study aimed to evaluate the perinatal outcomes in a group of Iranian patients with the complain of vaginal bleeding in the first trimester.

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Materials and methods

The present study is a sectional- analytical research that was performed during March 2010 till March 2012 on 60 pregnant women with vaginal bleeding in the first trimester of pregnancy who referred to hospitals related to the Islamic Azad University, Medical Tehran Branch.

All women with vaginal bleeding in first trimester of pregnancy whose pregnancy was confirmed chemically were studied. Women with chronic medical complications including diabetes and hypertension and women with a history of infertility or missed obstetrical history wereexcluded from the study. The study was confirmed by the research deputy of Azad University. After taking a written informed consent, patients were kept under surveillance until delivery and the consequence of pregnancy was evaluated by close observation on the process of pregnancy and prenatal care. Sonography was performed for all women in the 8-10 weeks intervals. The women were visited every two weeks in the first 6 months of pregnancy, weekly in the 7th and 8th months as weekly and two times per week in the last month of pregnancy.

The age of pregnancy at the time of bleedings, the volume of bleeding, the history of previous pregnancies, the co-existing diseases, the length and duration of pregnancy and the birth weight were recorded. Data were analyzed using SPSS- 11 software and P- value≤ 5% was defined as significant.

Results

In this study 60 women with vaginal bleeding in the first trimester of their pregnancy were studied. The obstetrical characteristics of patients are summarized in table 1.

In this study, there was no correlation between the result of pregnancy and the gestation age at the time of bleeding (P=0.09). In the women whose pregnancies were terminated due to the diagnosis of ectopic pregnancy (EP) 25% were 15-24 years and 75% of them were 25-34 years of age. All women with other causesof termination of pregnancy were in the range of 25-34 years of age. Table 2 shows the frequency of the most important obstetrical complications in women with first trimester vaginal bleeding.

In the termination of pregnancy due to reasons except for EP, 22.2% of women were gravid one.

In the women who continued their pregnancy, 32.9% were gravida 1, 60.7% were gravid 2 and 3 and 7% were gravid more than 3.

There was a significant correlation between termination of pregnancy and the number of previous pregnancies (P=0.03).

The mean (± SD) of birth weight was 3106± 369 gram in babies of studied women. The mean (± SD) of gestational age at the end of pregnancy was 274± 15 day in studied women.

In women with spontaneous abortion in recent pregnancy, 11.1% had a major systemic disease. In women with pregnancy termination due to EP 33.3% had major systemic complications, 61.9% reported the history of smoking, alcohol addiction or progesterone contraception and 4.8% were disease free and mentioned no predisposing factor.

Table 1: Obstetrical characteristics of studied women (n= 60)

Variables		n (%)
Age(Year)	15-24	16(26.7%)
	25-34	32(53.3%)
	>35	12(20%)
Bleeding volume in current pregnancy	Spotting	2(3.3%)
	Moderate	44(73.3%)
	High	14(23.3%)
parity	0	34(56.7%)
	1	18(30%)
	2	6(10%)
	>2	2(3.3%)
History of bleeding in previous pregnancies	Yes	20(33.3%)
History of abortion	Yes	9

Table 2: Obstetrical complications in women with first trimester vaginal bleeding

	n (%)
Premature labor	15 (25%)
Premature rupture of membrane	5 (8.3%)
Placental abruption	8 (13.3%)
Intra uterine death	1 (1.7%)
Intra uterine growth retardation	3 (0.5%)
No Complication	8 (13.3%)

There was a significant correlation between termination of pregnancy and background diseases (P=0.015).

Among 60 women, 42 ended the pregnancy successfully. Totally 12% of them developed pregnancy diabetics during the pregnancy and 27.8% developed hypertension. The other complications of pregnancy are shown in the table 3.

The duration of pregnancy in 23.3% of women with first trimester vaginal bleeding was between 42-37 weeks, in 36.6% of them was between 37-20 weeks and 12 women had abortion. Excluding the cases of abortionthe birth weight in 42 newborns was as follow: 5.6% had weight more than 3500 gr, 66.7% were between 2500-3500 gr and %27.8 were less than 2500 gr.

Discussion

In this study 70% of pregnant women with first trimester vaginal bleeding continued their pregnancy that shows more than half of these women terminated their pregnancy successfully.

In the Snell et al.'s study it is demonstrated that vaginal bleeding occurres among 15-25% of pregnancies and half of them continue their pregnancy (12, 14). Three major reasons for first trimester bleeding are spontaneous abortion, EP and trophoblastic diseases in the pregnancy. In the study of Dogra et al. it is reported that the most common causes for first semester bleeding are abortion and EP, and there were observable genetic disorders in more than 50% of spontaneous abortions (13).

In this study, the evaluation of uterus and pregnancy sac by ultrasound was considered as the first necessary action for diagnosis of the cause of bleeding. The studies of Deutchman et al. (2009) and Thorstensen et al. (2000) reported that in pregnancies with first trimester bleeding the most important diagnostic actions include transvaginal ultrasound and evaluating the rising of serum level of βHCG (15, 16).

In the different studies such as Saraswat et al.'s and Siddiqui's, there has been demonstrated that women with bleeding in the first trimester of pregnancy, more frequently developed bleeding in the second and third trimesters due to the probability of placenta praevia, placenta disruption and bleeding with unknown place (17, 18). In some studies, it has been demonstrated that the probability of premature rupture of fetal membranes in the women with first trimester bleeding is about 2 to 4 times higher than others (17).

Several studies such as Weiss et al.'s showed that abortion, premature delivery and placenta disruption are the most common complications of first trimester bleeding in the pregnancy which is in concordance with present study (19).

Saraswat et al. performed a systematic- review and demonstrated that first trimester bleeding has no effect on rout of delivery (17). But some other studies have shown that possibility of cesarean section in women with bleeding is more than others. The results of our study show the same status.

With regard to previous studies, it is apparent that due to several disorders of placenta in the pregnant women with first trimester bleeding, the length of pregnancy in these women is less and the possibility of premature delivery is more (19). In the other word, such pregnancies developed growth failure and newborn has low birth weight due to premature delivery (20). Many studies agreed with low birth weight of newborns and Apgar of 5 minute less than 7 in pregnancies with first trimester bleedingbut various results are reported about mortality rate of newborns (20, 21).

Table 3: Pregnancy outcome in women with first trimester vaginal bleeding

	n (%)
Abortion	12 (20%)
Termination of pregnancy	6 (10%)
Normal vaginal delivery	23 (38/4%)
Cesarean section	25 (41/6%)
Minute 5 APGAR score < 7	7 (11/7%)
Admission in NICU	10 (16/7%)

In the study of Yasaee et al. that was performed on 161 patients with vaginal bleeding during a period of 10 years in the Taleghani hospital, tehran, the average age of pregnancy was 16.3 weeks (22).

The limitation of this study is the determination of the intensity, amount and frequency of bleeding that appear to be effective factor in the end of pregnancy. It is also suggested that the relation of first trimester vaginal bleeding to sex of newborn in current and previous pregnanciesas well as body mass index to be evaluate in the next studies.

Conclusions

Considering the results of present study and first trimester bleeding can be a predicting factor in terms of mother and infant consequences of pregnancy and it is necessary to increase the knowledge of pregnant women in this regard for closer care. Also, because the clinical interventions of attentive physician has important role in not only the continuance of pregnancy but also reducing the fetal complications in these high risk pregnancies, precise management and planning by physicians is required.

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