

Research Article

Study of outcome of pregnancy in patients with first-trimester bleeding per vaginum

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ABSTRACT

Background: To assess pregnancy outcome in women with threatened miscarriage in the first trimester. To study various maternal complication and outcome of labor in pregnancy affected by first-trimester bleeding.

Methods: This prospective study was carried out by institute from May 2013 to April 2014. 100 patients were included with a history of amenorrhea and urine pregnancy test positive with bleeding per vaginum in the first trimester.

Results: In this case series, 100 cases of first-trimester bleeding were studied. Majority of patients were multigravida (66%). In the present study, 40 patient (40%) had a history of previous abortion out of these 16 (40%) had non-viable outcome and 24 (60%) continue with the pregnancy beyond 20 weeks. Majority of patients (68%) presented with spotting, among those 59 (86.7%) had a favorable outcome and only 9 (13.3%) out of 68 patients were aborted. All 10 patients of heavy bleeding category aborted. 5 out of 22 patients of bleeding of moderate category aborted. First-trimester bleeding associated with pain has a poor outcome.

Conclusion: First-trimester bleeding is not only associated with miscarriage but also with a higher rate of pregnancy complications. First-trimester bleeding is associated with an increased risk of certain pregnancy-related complications namely placental abruption, preterm labor, delivery of low birth weight infants and preterm premature rupture of membrane.

Keywords: First-trimester, Pregnancy, Preterm birth, Vaginal bleeding

INTRODUCTION

Bleeding per vaginum in the first trimester is one of the most common obstetric problems. It is also one of the commonest causes for the majority of the emergency admissions and also common reason for ultrasound examination in the first trimester.

Nearly 25% of all pregnant women in their first trimester complain of bleeding.^{1,2} By mere clinical history and examination definitive diagnosis is usually impossible.

The occurrence of vaginal bleeding in the first trimester often causes anxiety about outcome of pregnancy. Approximately, one-third of first-trimester bleedings happens in pregnancies that are otherwise normal.³ In addition, no anatomical cause can be established in the vast majority of pregnancies that are complicated by vaginal bleeding.⁴ Half of the women who experience first-trimester vaginal bleeding will continue their pregnancies, and other half will experience an abortion.⁵

The present study analyses the cause and feto-maternal outcome in pregnancies that are affected with first-trimester bleeding.

METHODS

This prospective study was carried out at our institute from May 2013 to April 2014. 100 patients were included with a history of amenorrhea and urine pregnancy test positive with bleeding per vaginum in the first trimester.

Design

The design of the study is often used to show the relationship between variables. The independent variable is a history of vaginal bleeding. The dependent variable is the outcome of the pregnancy.

Sample and setting

The control group was not utilized for this study. In data collection, patient who met the criteria of,

- Months of amenorrhea of <3 months
- Positive pregnancy test
- Bleeding per vaginum
- First trimester only.

Any documented pregnancies were chosen.

The exclusion criteria were:

- Emergency cases
- Bleeding at time of loss
- All patients with more than 12 completed weeks of gestation.

Table 1: Age distribution.

Age in years	Number	%
18-20	24	24
21-25	37	37
26-30	31	31
31-35	8	8
Total	100	100.0

Table 2: History of previous abortion.

Previous abortion	%	Williams et al. ⁴ (%)
Spontaneous abortion	23	24.5
Induced abortion	17	19.0
Total	40	43.5

Table 3: Correlation of duration and amount of bleeding with pregnancy outcome.

Duration of bleeding (days)	Spotting		Moderate		Heavy	
	Viable	Non-viable	Viable	Non-viable	Viable	Non-viable
1-2	19	6	4	7	0	3
3-4	33	3	0	8	0	5
5-6	6	0	1	2	0	1
7-8	1	0	0	0	0	1
Total	59	9	5	17	0	10

The vaginal bleeding histories included the duration of bleeding in days, the severity of bleeding and associated abdominal pain.

Bleeding was categorized as spotting, moderate or heavy bleeding according to the self-assist degree of vaginal bleeding.

Ultrasound examination was done in all subjects who were included in this investigation.

All such patients were prospectively followed throughout the pregnancy, and the intra-partum period, and their outcomes were studied.

Post-delivery follow-up was performed by telephone interview or medical record review.

The fetal outcome of pregnancy was categorized as:

- Non-viable outcome (termination of pregnancy before 20 weeks)
 - Spontaneous or induced termination,
 - Congenital malformations that were terminated before 20 weeks
- Viable outcome (continuation of pregnancy after 20 weeks)
 - Preterm delivery,
 - Low birth rate (<2500 kg)
 - Intrauterine growth retardation
 - Perinatal death
 - Neonatal intensive care unit (NICU) admission
 - Full term live birth with a healthy fetus.
- The maternal outcome (only from those patients in which pregnancy continued beyond 20 weeks) as
 - Pregnancy-induced hypertension (PIH)
 - Anemia
 - Preterm premature rupture of membrane (PPROM)
 - Placenta abruption
 - Placenta previa
 - Post-partum hemorrhage
 - Cesarean delivery and
 - No complications.

RESULTS

In this case series, 100 cases of first-trimester bleeding were studied. Majority of patients were multigravida

(66%). Majority of first trimester bleeding patients (31%) present between 2 and 2½ months of amenorrhea and 41% of patients presented had intrauterine G sac of 8-10 weeks. In the present study, 40 patients (40%) had a history of

Table 4: Pain abdomen.

Pain abdomen	Outcome	Number (n=100)	%
Absent	Viable	46	46
	Non-viable	14	14
Present	Viable	18	18
	Non-viable	22	22
Total		100	100.0

Table 5: Status at the end of first trimester.

Status at the end of first trimester	Number	%
Healthy SLIUF	45	45
Missed abortion	7	7
Blighted ovum	3	3
Inevitable abortion	2	2
Incomplete abortion	2	2
Threatened abortion	24	24
Ectopic pregnancy	8	8
Vesicular mole	5	5
Twin gestation	2	2
Anencephaly	2	2
Total	100	100

SLIUF: Single live intrauterine fetus

previous abortion out of these 16 (40%) had nonviable outcome and 24 (60%) continue with the pregnancy beyond 20 weeks. Majority of patients (68%) presented with spotting, among those 59 (86.7%) had a favorable outcome and only 9 (13.3%) out of 68 patients were aborted. All 10 patients of heavy bleeding category aborted. 5 out of 22 patients of bleeding of moderate category aborted. First-trimester bleeding associated with pain has a poor outcome. Out of all patients of first trimester bleeding, 64 pregnancies continued beyond 20 weeks of gestation out of which 78.1% patients delivered full term, 21.9% delivered preterm, 14.1% had fetal growth restriction (FGR), 30.3% had NICU admission, 9.4% perinatal death and 35.9% were low birth weight (LBW). Out of all patients who continue pregnancy beyond 20 weeks of gestation, PIH was seen in 6.2% cases, placenta previa in 3.1%, placental abruption in 7.8%, and PPROM in 18.7%. 59.5% of patient had a vaginal delivery, and 40.5% had caesarean section and commonest indication was fetal distress 60%.

DISCUSSION

First-trimester bleeding is not only associated with miscarriage but also with a higher rate of pregnancy complications.

There is a strong association between first-trimester vaginum bleeding and adverse pregnancy outcome: 50% full term healthy live births, 15% preterm birth and 28% abortion in the present study.

First-trimester bleeding is associated with an increased risk of certain pregnancy-related complications namely

Table 6: Fetal outcome.

Outcome	Number (n=64)	Present study (%)	Davari-Tanha et al. ⁶ (%)	Mulik et al. ⁷ (%)	Wijesiriwardana et al. ⁸ (%)
FT	50	78.1	-	-	-
Preterm	14	21.9	30.6	28.8	-
FGR	9	14.1	-	-	9.5
Perinatal death	6	9.4	9.3	-	-

FT: Fetal thyroid, FGR: Fetal growth restriction

Table 7: Maternal outcome.

Complications	n=64	%	Davari-Tanha et al. ⁶ (%)	Lykke et al. ⁹ (%)	Wijesiriwardana et al. ⁸ (%)
No complication	37	57.8	-		
Anemia	29/100	29	22.7		
Placenta previa	2	3.1	0.6		
Placenta abruption	5	7.8	5.7		
PPH	4	6.2	-		9.7
PPROM	12	18.7	27.5	19.1	
PIH	4	6.2	4.6	4.0	

PIH: Pregnancy induced hypertension, PPROM: Preterm premature rupture of membrane, PPH: Postpartum haemorrhage

Table 8: Amount of bleeding and miscarriage.

Amount	% (Present study)	% (Hasan et al.) ¹⁶
Spotting	5	9.2
Moderate	8	11.7
Heavy	10	23.7

Table 9: Intra uterine hematoma and outcome.

Outcome	Present study (n=12)	Maso et al. ¹³ %
Favourable outcome	66.6	61.5
Spontaneous abortion	16.6	14.3
FGR	8.3	7.7
Preterm	16.6	6.6

FGR: Fetal growth restriction

placental abruption, preterm labor, delivery of LBW infants and PPRM.

In the presence of sub-chorionic hematoma the prognosis of pregnancy is significantly affected as a risk of preterm FGR and especially miscarriages increases.

The most common bleeding category among study population was spotting. They had approximate 70% chances of living birth. In moderate bleeding, only 18% pregnancies were viable and in heavy bleeding none of pregnancy continues till term.

The probability of abortion and adverse pregnancy outcome increases as amount and duration of bleeding increase, especially when accompanied with abdominal pain.

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Abbreviations

FGR: Fetal growth restriction
 PIH: Pregnancy induced hypertension
 PPRM: Preterm premature rupture of membrane
 NICU: Neonatal intensive care unit
 OPD: Outdoor patient department
 EFW: Expected fetal weight
 GA: Gestational age
 LBW: Low birth weight

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