

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

Ponnam Chandramathi<sup>1</sup>, V Rama Devi<sup>2</sup>, Ponnam Vaishnavi<sup>3</sup>, Puppala Vinayaka Vishnu Vardhan<sup>4</sup>

<sup>1</sup>Associate Professor, Department of Obstetrics and Gynaecology, Chalmeda Ananda Rao Institute of Medical Sciences (CAIMS) Karimnagar, Telangana, India

<sup>2</sup>HOD and Professor, Department of Obstetrics and Gynaecology, Chalmeda Ananda Rao Institute of Medical Sciences (CAIMS) Karimnagar, Telangana, India

<sup>3</sup>Post Graduate, Department of Obstetrics and Gynaecology, Prathima Institute of Medical Sciences, Karimnagar, Telangana, India

<sup>4</sup>Post Graduate, Department of Surgery, D.Y. Patil Medical College Pune, India

---

Received: 06-07-2021 / Revised: 10-08-2021 / Accepted: 21-09-2021

Corresponding author: Dr. Puppala Vinayaka Vishnu Vardhan

Conflict of interest: Nil

---

### Abstract

**Background:** Out of 100 pregnancies, approximately 15 to 25 women have vaginal bleeding in first trimester. This vaginal bleeding usually occurs 1 to 2 weeks after fertilization during implantation of fertilized egg in uterus lining.

**Aim:** The present study evaluated the maternal and perinatal outcomes in women with first trimester vaginal bleeding.

**Materials and Methods:** The present study is a cross sectional study which was conducted between February 2017 to March 2019. 50 pregnant women with vaginal bleeding in the first trimester of pregnancy were admitted in Department of Gynecology and Obstetrics.

**Results:** Premature labour was found to be highest complication during first trimester vaginal bleeding which was 28%, other complications were premature membrane rupture (8%), placental abruption (14%), intrauterine death (2%), Intrauterine growth retardation (4%) and there was no complication in 14%. Caesarean section (28%) was highest pregnancy outcome in women with first trimester vaginal bleeding. 7 women had abortion.

**Conclusion:** The present study concluded that predicting factors of mother and infant consequences of pregnancy might be first trimester vaginal bleeding.

**Keywords:** First trimester, maternal and perinatal outcomes.

---

This is an Open Access article that uses a fund-ing model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.

---

### Introduction:

Of all pregnancies, first vaginal trimester bleeding is a complication which affects to 15 to 26% [1, 2]. Spontaneous abortion or miscarriage, pre-term delivery, hydatidiform, ectopic-implantation and low

birth weight are associated with first trimester vaginal bleeding. On ultrasound with a vaginal bleeding history in presence of closed cervix, threatened miscarriage is diagnosed based on fetal cardiac activity [3,

4]. Only 50% of pregnant women have normal pregnancies who are admitted in emergency room with vaginal bleeding. Risk of other complications is enhanced two-fold by vaginal bleeding [5]. Vaginal bleeding is either considered a normal sign of pregnancy implantation or may be a pathologic condition like ectopic pregnancy or trophoblastic disease. Vaginal bleeding associated with positive pregnancy test further requires intervention in-order to guess the normal or abnormal pregnancy. The present study evaluated the maternal and perinatal outcomes in women with first trimester vaginal bleeding.

### Materials and Methods

The present study is a cross sectional study which was conducted between February 2017 to March 2019 in Department of Gynecology and Obstetrics at Chalmeda ananda Rao institute of medical sciences. 50 pregnant women with vaginal bleeding in the first trimester of pregnancy were admitted in. All patients whose pregnancy was confirmed were studied chemically. Exclusion criteria was women with diabetes

and hypertension with an infertility history or missed obstetrical history. A written informed consent was taken from all patients and pregnancy consequence was studied like process of pregnancy and prenatal care. Sonography in 8-10 weeks was conducted on all patients. Follow up of all patients was taken every two weeks in the first 6 months of pregnancy, weekly in 7th and 8th months and twice per week in last month of pregnancy. All recordings of pregnancy age at bleeding time, bleeding volume, previous pregnancies history, co-existing diseases, length and duration of pregnancy and birth weight were taken. Data was analysed using SPSS 25 software. P value of  $\leq 5\%$  was considered to be significant.

### Results

Table 1 shows that the highest percentage of patients (56%) were in the age group of 26-35 years. Bleeding volume in pregnancy was highest (80%) in moderate section. 64% had 0% parity. 36% had history of bleeding in previous pregnancies and 16% of patients had abortion history.

**Table 1: Obstetrical characteristics**

<b>Age (Years)</b>		
Age Range	N	Percentage
16-25	14	28%
26 -35	28	56%
> 36	8	16%
<b>Bleeding in Pregnancy</b>		
Spotting	1	2%
Moderate	40	80%
High	9	18%
<b>Parity</b>		
0	32	64%
1	12	24%
2	4	8%
>2	2	4%
<b>History of bleeding in previous pregnancies</b>	Yes (18)	36%
<b>Abortion history</b>	Yes (8)	16%

**Table 2: Obstetrical complications**

Variables	Number	Percentage
Premature Labour	14	28%
Premature membrane rupture	4	8%
Placental abruption	7	14%
Intrauterine death	1	2%
Intrauterine growth retardation	2	4%
No Complication	7	14%

Table 2 shows that premature labour was found to be highest complication during first trimester vaginal bleeding which was 28%, other complications were premature membrane rupture (8%), placental abruption (14%), intrauterine death (2%), intrauterine growth retardation (4%) and there was no complication in 14%.

**Table 3: Pregnancy outcome**

Variables	Number	Percentage
Abortion	7	14%
Pregnancy termination	4	8%
Normal vaginal delivery	12	24%
Cesarean section	14	28%
Minute 5 APGAR score <7	5	10%
NICU admission	8	16%

Out of 50 pregnant women, 34 ended pregnancies successfully. 10% developed diabetes during pregnancy and 25% developed hypertension. The other pregnancy outcomes are shown in table

3. Table 3 shows that caesarean section (28%) was highest pregnancy outcome in women with first trimester vaginal bleeding and lowest pregnancy outcome was pregnancy termination (8%).

The duration of pregnancy in 21% of pregnant women with first trimester vaginal bleeding was between 40-38 weeks 35% of pregnant women was between 38-20 weeks. 7 women had abortion. 40 newborns were evaluated. 6% of newborn had weight of more than 3500 gms, 67% had weight between 2500- 3500 gms and 27% had a weight of <2500 gms.

### Discussion

In present study, 68% of women who were pregnant with first trimester vaginal bleeding continued their pregnancy which showed that more than half of women selected in study terminated their

pregnancy. In Zhila Amirkhani M.D. *et al.* study [6], 70% of women who were pregnant with first trimester vaginal bleeding continued their pregnancy which showed that more than half of women selected in study terminated their pregnancy. 15-25% of pregnancies and half of study population continued their pregnancy in Snell *et al.* study [7]. In present study, spontaneous abortion, EP and trophoblastic diseases were majorly the reasons for first trimester pregnancy. Similar results were observed in Dogra *et al.* [8] study and genetic disorders in more than 50% of spontaneous abortion was the main cause. The diagnosis of cause of vaginal bleeding in the present study was uterus and pregnancy sac evaluation by ultrasound was considered prerequisite. Similarly, in Deutchman *et al.* [9] and Thorstensen *et al.* [10] studies, the diagnostic tools used for first trimester vaginal bleeding were ultrasound and detecting serum level rise of  $\beta$ HCG. Most frequently, pregnant women with vaginal bleeding in the first trimester developed bleeding in second and third trimesters

because of placenta praevia, disruption of placenta were reported in Saraswat *et al.* [11] and Siddiqui's *et al.* [12] studies. Similar results as the present study were observed in Weiss *et al.* [13] study in most complications of first trimester vaginal bleeding were abortion, premature delivery and disruption of placenta. In Saraswat *et al.* [11] study, it was observed that route of delivery had no effect on first trimester vaginal bleeding, whereas in the present study, cesarean section had effect on first trimester vaginal bleeding. In Weiss *et al.* study, length of pregnancy was less, and premature delivery was more due to various disorders of placenta in pregnant women with first trimester vaginal bleeding. In Harley A *et al.* [14] and Riahinejad *et al.* [15] studies, it was reported that low birth weight of newborns and APGAR of 5 minutes less than 7 in pregnancies with first trimester bleeding was the reason for mortality in newborns. In Yasee *et al.* [16] study, the average age of pregnancy was 16.3 weeks. The intensity, frequency and amount of vaginal bleeding also might be the effective factor in the end of pregnancy which needs to be evaluated in future studies.

### Conclusion

The present study concluded that predicting factors of mother and infant consequences of pregnancy might be first trimester vaginal bleeding and pivotal role is played by physician precise planning and management in continuation of pregnancy and in reducing fetal complications.

### References

1. Calleja-Agius J. Vaginal bleeding in the first trimester. *Br J Midwifery* 2008; 16:656-61.
2. Schauburger CW, Mathiason MA, Rooney BL. Ultrasound assessment of first-trimester bleeding. *Obstet Gynecol* 2005; 105:333-8.
3. Poulouse T, Richardson R, Ewings P, Fox R. Probability of early pregnancy loss in women with vaginal bleeding and a singleton live fetus at ultrasound scan. *J Obstet Gynecol* 2006; 26:782-4.
4. Zhang J, Gilles JM, Barnhart K, Creninin MD, Westhoff C, Frederick MM, et al. A comparison of medical management with misoprostol and surgical management for early pregnancy failure. *N Engl J Med* 2005; 353:761-9.
5. Fleischer AC, Andreotti RF, Bohm-Velez M, Fishman EK, Horrow MM, Hricak H et al. First trimester bleeding. American College of Radiology (ACR) Appropriateness Criteria 2007, 5. Available from: [www.acr.org](http://www.acr.org)
6. Zhila Amirkhani MD, Meisam Akhlaghdoust MD, Media Abedian MD, Gelareh Rabie Salehi B.Sc., Nesa Zarbati M.Sc., Maryam Mogharehabet M.D et al. Maternal and Perinatal Outcomes in Pregnant Women with First Trimester Vaginal Bleeding; *Journal of family and reproductive health* 2013, 7(2).
7. Snell BJ. Assessment and Management of Bleeding in the First Trimester of Pregnancy. *Journal of Midwifery & Women's Health* 2009; 54:483-91.
8. Dogra V, Paspulati RM, Bhatt S. First trimester bleeding evaluation. *Ultrasound Q* 2005; 21:69-85.
9. Deutchman M, Tubay AT, Turok D. First trimester bleeding. *Am Fam Physician* 2009; 79:985-94.
10. Thorstensen KA. Midwifery management of first trimester bleeding and early pregnancy loss. *J Midwifery Womens Health* 2000; 45:481-97.
11. Saraswat L, Bhattacharya S, Maheshwari A, Bhattacharya S. Maternal and perinatal outcome in women with threatened miscarriage in the first trimester: a systematic review. *BJOG* 2010; 117:245-57.
12. Siddiqui F, Kean L. Intrauterine fetal death. *Obstetrics, Gynaecology and Reproductive Medicine* 2009;19:1-6.
13. Weiss JL, Malone FD, Emig D, Ball RH, Nyberg DA, Comstock CH et al. Obesity, obstetric complications and

- cesarean delivery rate a population-based screening study. *Am J Obstet Gynecol* 2004; 190:1091-7.
14. Harlev A, Levy A, Zaulan Y, Koifman A, Mazor M, Wiznitzer A et al. Idiopathic bleeding during the second half of pregnancy as a risk factor for adverse perinatal outcome. *J Matern Fetal Neonatal Med* 2008; 21:331-5.
  15. Riahinejad S, Motamedi N, Saadat N, Mostofiniya M, Toghiani A. Effect of Vaginal Bleeding in First Trimester of Pregnancy-on-Pregnancy Outcomes. *Journal of Isfahan Medical School* 2011; 156:1.
  16. Yasae F, Ghorbani M. Incidence and outcome of bleeding in pregnant woman in 1370-1380. *Pajouhesh dar pezeshti* 2006; 30:227-9