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Original Article

Pregnancy Outcome in Women Presenting with First Trimester Vaginal Bleeding

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ABSTRACT

Background: First trimester hemorrhage affects roughly 16 percent to 25 percent of pregnancies. The vast variety of reasons of early pregnancy bleeding, the risk of miscarriage, and the worry of having any life-threatening etiology puts pregnant women with first trimester hemorrhage in a state of uncertainty, leading to anxiety and sadness,

The Aim of the work: To determine the fate of vaginal hemorrhage in the first trimester of gestation,

Patients and Methods: This was A prospective cohort study was conducted for patients with 1ST pregnancy trimester vaginal bleeding admitted in the obstetrics and gynecology Department, El-Hussein University Hospital, separate into two groups: [Group I] [Case Group]; comprised 50 Subjects with 1st trimester vaginal bleeding and [Group II] [Control Group]; comprised 50 Subjects with no vaginal bleeding, Result: There is a substantial variation between the groups in term of placental abruption, placenta previa, antepartum hemorrhage, abortion, and postpartum hemorrhage,

Results: There is a substantial variation between the groups in term of placental abruption, placenta previa, antepartum hemorrhage, abortion, and postpartum hemorrhage,

Conclusion: In conclusion, first-trimester vaginal bleeding is a clinically important occurrence for obstetricians as a predictor of preterm birth and placental abruption in both the index and future pregnancies; these results add to the proof of the relationship between pregnancy problems and their recurrence. Our results showed significant difference between the groups regarding placental abruption, placenta previa, antepartum hemorrhage, abortion, postpartum hemorrhage, gestational age and birth weight between the studied groups.

Keywords: First trimester; Pregnancy outcomes; Vaginal bleeding.

INTRODUCTION

Spontaneous abortion/miscarriage, ectopic conception, hydatidi form mole, premature delivery, and reduced newborn weight are all linked to vaginal bleeding in the first trimester of pregnancy. According to reports, 50% of women who arrive to an emergency department with vaginal hemorrhage will have a normal pregnancy. Vaginal hemorrhage is a rather typical occurrence in the first trimester, with 15 to 25% of all pregnancies experiencing it [1].

Vaginal bleeding is linked to a twofold rise in the risk of various gestation problems. Vaginal hemorrhage may be a natural symptom of pregnancy implantation, a sign of spontaneous abortion starting, or a sign of a pathologic condition such ectopic pregnancy or gestational trophoblastic illness. Vaginal bleeding following a positive pregnancy test needs additional evaluation to determine if the pregnancy is developing normally or abnormally, or whether there is a pathologic problem that necessitates intervention [2].

Seventy percent [70%] of pregnant women who have vaginal bleeding in the first trimester generally continue their gestation, indicating that more than half of these women successfully ended their pregnancy. Due to the risk of placenta praevia, placenta disruption, and hemorrhage from an unknown source, women who had hemorrhage in the first trimester of gestation were more likely to have bleeding in the second and third trimesters. According to certain research, women who have first trimester bleeding have a 2 to 4 times greater risk of preterm rupture of fetal membranes than those who do not [3].

Spontaneous abortion, EP, and trophoblastic disorders in pregnancy are three common causes of first trimester hemorrhage. Abortion and EP are the most prevalent causes of first semester hemorrhage, and there were obvious genetic problems in more than half of spontaneous abortions. The most frequent problems of first trimester bleeding in gestation are abortion, early birth, and placenta disruption [4].

Ultrasound examination of the uterus and pregnant sac was regarded as the first and most important step in determining the source of bleeding. Many studies have shown that transvaginal ultrasonography and assessing the rise in βHCG serum levels are the most essential diagnostic steps in pregnancies with first trimester bleeding [5].

First trimester bleeding may be a predictor of the mother's and infant's pregnancy outcomes, hence pregnant women's understanding in this area should be improved in order to provide better treatment. Furthermore, since the clinical interventions of attentive doctors have a major role in not only the continuation of pregnancy but also the reduction of fetal problems in these high-risk pregnancies, physicians must manage and prepare carefully [6].

THE AIM OF THE WORK

The goal of the research was to see how vaginal bleeding in the first trimester affected gestation outcomes.

PATIENTS AND METHODS

This research was a prospective cohort study conducted for patients with 1st pregnancy trimester vaginal bleeding admitted in the Obstetrics and Gynecology Department, Al-Hussein University Hospital from August 2021 till July 2022.

Sample size calculation: This research was based on research by **Olugbenga *et al*.** [7]. Epi Info STATCALC was used to determine the sample size by taking into account the following assumptions: A 95 percent two-sided confidence level with an 80 percent power level, the odds ratio was estimated with a 5% error of 1.115. From the Epi- Info output, the ultimate maximum sample size was 100.

Ethical considerations: The protocol was applied for approval of Research Ethics Committee. All data was kept confidential. All participants had the right to withdraw from the study without affecting their management. Before the patients were included in the trial, they gave their informed permission.

Inclusion criteria: Women aged 18-45 years old with normal body mass index [<25 Kg/m^2] who experienced vaginal bleeding in the first trimester [6-12 weeks] of pregnancy and whose gestation had been scientifically verified were investigated.

Exclusion criteria: Women with long-term medical issues, such as diabetes and high blood pressure, those with a history of infertility, and

women who have had an obstetrical history overlooked, polycystic ovary, para-malignant syndrome and carcinoma, severe acute or chronic infection and immuno-compromised.

All included patients were sub-divided into two groups: group [1] [Case Group]: 50 subjects presenting with 1st trimester vaginal bleeding, and group [2] [Control Group]: 50 Subjects presenting with no vaginal bleeding.

Methods

Before the patients were included in the trial, they gave their informed permission. Patient's history was taken including demographic data [name, age, residence, consanguinity], pregnancy history [parity, gravida, mood of previous delivery, history of previous abortion and frequency, history of sibling death, period of gestation], medical history [diabetes, hypertension, anemia, preeclampsia, others], and history of previous operations. Body mass index [BMI] was determined by dividing weight in kilograms by length in meters squared. For temperature obtaining, we used mercury thermometer under septic condition to obtain temperature. First, we shacked the thermometer to make sure that mercury in thermometer was lower than 25 C. for blood Pressure**,** hypertension was diagnosed by history for value > 140/90 mmHg or when subjects were taken antihypertensive drugs. Sphygmomanometer had been used to measure the blood pressure. Laboratory investigation included complete blood picture,

The impact of pregnancy was assessed by detailed monitoring of the gestation and prenatal care processes. In 8-10 weeks intervals, all ladies were subjected to solography. The women were seen every two weeks for the first six months of gestation, weekly for the seventh and eighth months, and twice per week for the last month. The age of the gestation at the time of the hemorrhages, the amount of hemorrhage, prior pregnancies, co-existing illnesses, gestation length and duration, and birth weight were all documented.

Pelvic Exam: The examination began with a review of the exterior vulva. We assessed the tenderness of any anomalies and looked at the fundamental growth of vulvar architecture, symmetry, hair distribution, any swelling, bruises, erythema, rashes, lesions, discharge, and growths. Next was the internal speculum examination. Transabdominal ultrasound was performed with a low-frequency probe, with a large convex footprint.

Transabdominal [TA]: Midline sagittal and parasagittal pictures oriented from the midline to the periphery of both hemipelves were used in the transabdominal procedure.

Pelvic Ultrasound: When using the TA method to observe the contents of the pelvis, it was best to have a urine-filled bladder.

Transvaginal [TV]: When compared to normal TA imaging, TV scans employed extended transducers with greater frequencies elements in the range of 7 MHz to 8 MHz [near 3.5 MHz].

Ultrasonography during follow up: Both regular [fetus's anatomy evaluation and biometric assessments] and research [uterine and umbilical artery Doppler flow velocimetry] aspects were included in the scan. The landmarks visible are the stomach and a small central portion of the umbilical vein place the ellipse caliper on the outer edge of the abdomen to measure the AC. The final stage of the scan was to measure the femur length [FL] by maintaining a transverse section of the fetal body with sliding the probe down from plane 11 towards the fetal pelvis and rotate it to view a longitudinal section of the femur. This technique prevented us from accidentally measuring the humerus place the calipers at each end of the femur and measure the longest visible diathesis don't include spur artifacts on the ends of the diathesis and be sure to measure along the long axis of the bone.

Menstrual Pictogram: vaginal bleeding was evaluated using menstrual pictogram. Participants were provided with the menstrual pictogram and instructed how to complete it. The menstrual pictogram contains pictorial representations of graded staining from slight to severely stained sanitary napkins and tampons. In addition to scoring each sanitary item women were also asked to distinguish whether it was a daytime or nighttime napkin and whether the tampon was regular, super, or super plus, all of which have different absorption characteristics. Icons representing blood lost as clots as well as that lost when changing feminine hygiene products were also included in the menstrual pictogram. Extraneous blood loss was estimated using three pictogram representations of slight,

moderate, and severe blood loss when changing feminine hygiene products. Participants were instructed to mark down the loss each time they changed their napkin or tampon

Study outcomes

1] Complications of pregnancy: ante-partum bleeding, involving placenta previa, placental abruption, and antepartum hemorrhage of unknown origin; preeclampsia, eclampsia, preterm labor., 2] **Complications of Delivery:** Initiation of labor, malpresentation, cesarean delivery, manual removal of the placenta, and postpartum bleeding, and **3] Complications and parameters in newborns:** Premature birth, stillbirth, neonatal mortality, low birth weight, Apgar score of less than 7 at 5 minutes, and admittance to the neonatal care unit.

Statistical Analysis: For data processing, SPSS version 23 was employed to validate, input, and analyze the data. For qualitative data, data were reported as number and proportion, and for quantitative variables, mean + standard deviation [SD]. Chi square and independent t tests were used to compare between outcomes of the studied groups.

RESULTS

Table [1] shows that there is no substantial variation between the groups regarding demographic features.

Table [2] showed that 76% of the patients had moderate bleeding while 18% had high volume of bleeding and only 3 patients had spotting. Seven patients [14%] continued to have bleeding the 2nd trimester.

Table [3] showed a significant difference between the groups regarding miscarriage, placental abruption, placenta previa, and antepartum hemorrhage.

Table [4] showed a significant difference between the groups regarding postpartum hemorrhage.

Table [5] showed there is a substantial variation between the groups according to preterm labor, low weight of birth and NICU admission.

Table [6] shows that there is a substantial variation between the groups according gestational age and weight of birth.

Table [1]: Demographic characteristics among the researched groups

	Group A [n=50]	Group B [n=50]	t/χ^2	p
Age [years] Mean ± SD	27.33 ± 4.28	25.77 ± 4.54	1.77	.081
BMI [kg/m^2] Mean ± SD	27.12 ± 3.64	26.54 ± 2.39	.942	.349
Parity Mean ± SD	1.82 ± 1.06	1.56 ± 0.979	1.27	.206
Gravidity Mean ± SD	3.06 ± 1.47	2.53 ± 1.32	1.72	.089

Table [2]: Vaginal bleeding among case group

		Group A [n=50]	
		No.	%
Vaginal bleeding volume	**Spotting**	3	6%
	Moderate	38	76%
	High	9	18%
Bleeding in 2nd trimester	**Stopped before the 1st trimester**	43	86%
	Continuous during the 2nd trimester	7	14%

Table [3]: Obstetric pregnancy Outcome distribution among studied groups

	Group A [n=50]		Group B [n=50]		χ^2	p
	No.	%	No.	%		
Miscarriage	11	22	2	4	7.16	**.007**
Ectopic	2	4%	1	2%	.344	.558
Vesicular mole	5	10%	3	6%	.544	.461
PROM	4	8	1	2	1.89	.169
Placental abruption	7	14	1	2	4.89	**.027**
Placenta previa	5	10	0	--	5.26	**.022**
Antepartum hemorrhage	12	24	4	8	4.76	**.029**

Table [4]: Obstetric labor Outcome distribution among studied groups

	Group A [n=50]		Group B [n=50]		χ^2	p
	No.	%	No.	%		
Induced labor	16	32	8	16	3.51	.061
Emergency SC	13	26	7	14	2.25	.134
Postpartum hemorrhage	10	20	3	6	4.33	**.037**
Manual removal of placenta	5	10	1	2	2.84	.092

Table [5]: Perinatal Outcome distribution among studied groups

	Group A [n=50]		Group B [n=50]		χ^2	P
	No.	%	No.	%		
Preterm labor	12	24	3	6	6.35	.012
Stillbirth	2	4	0	--	2.04	.153
Neonatal death	3	6	0	--	3.09	.079
Low birth weight	11	22	3	6	5.32	**.021**
Apgar at 5 < 7	2	4	1	2	.344	.558
NICU admission	13	26	3	6	7.44	**.006**

Table [6]: Neonatal characteristics between the studied groups

	Group A [n=50]	Group B [n=50]	t	P
GA [weeks] Mean ± SD	37.64 ± 1.23	38.4 ± 0.829	3.62	**.001**
Birth weight [kg] Mean ± SD	2.84 ± 0.435	3.02 ± 0.314	2.37	**.019**
Apgar at 1 min Mean ± SD	6.73 ± 1.65	7.11 ± 0.964	1.41	**.163**
Apgar at 5 min Mean ± SD	9.71 ± 0.499	9.86 ± 1.21	.811	**.419**

DISCUSSION

Vaginal bleeding in the first trimester is a frequent presenting complaint not just in basic care but also in tertiary care hospitals' emergency departments. There are many etiologies for this illness, all of which have an influence on the health of both the mother and the infant [8].

Our results revealed that in terms of demographic features, there is no substantial variation between the groups.

Similar to our results, in the study of **Moon and Shabbir** [8] Our research cohort had an average age of 29±8 years, a median gestational age of 8 weeks, and the majority of subjects were multigravida.

Previous miscarriage has a significant link to a poor gestation outcome in the present pregnancy, particularly if the index pregnancy was complicated by early gestation bleeding.

In our research, there was a substantial variation between the groups in terms of past abortion history and previous pregnancies with bleeding. Also, similar to our results **Yakıştıran *et al.*** [9] noted that Apart from miscarriage, a history of prior pregnancy miscarriage enhances the likelihood of unfavorable pregnancy outcomes such as PROM and IUD.

In agreement with our results **Moon and Shabbir** [12] also proves this link, with 24 percent of participants having experienced a prior pregnancy loss, with 77 percent of those miscarriages ending in miscarriage and just 11 percent having healthy kids.

76% of the patients had moderate bleeding while 18% had high volume of bleeding and only 3 patients had spotting amount of bleeding.

The amount and frequency of hemorrhage has a substantial link to pregnancy outcomes, particularly if the hemorrhage is painful. The less bleeding, the lower the danger of losing the fetus, but heavy and frequent bleeding not only raises the risk of miscarriage, but it also puts the fetus at risk even after it has reached viability.

Also, In agreement of our results **Kamble *et al.*** [10] With significant bleeding, 96.44 percent of women chose abortion, while 3.55 percent chose to go on with their pregnancy. Women with spotting had an abortion 81.26 percent of the time and 18.74 percent of the time.

In agreement of our results, Based on **Moon and Shabbir** [8] Only 34% of individuals who

experienced more than 5 bouts of hemorrhage had healthy term babies, while only 43% suffered miscarriages.

In terms of placental abruption, placenta previa, antepartum hemorrhage, abortion, and postpartum hemorrhage, there is considerable variation between the groups.

In **Moon and Shabbir** [8] Despite the fact that first trimester bleeding is linked to poor pregnancy outcomes, 40% of the study group had healthy term babies at the conclusion of their pregnancies, the same amount, i.e. 40% experienced miscarriages, and the remaining 10% had poor outcomes [6.7 percent ectopic, 2.6 percent molar, 4 percent preterm, and 6.7 percent placenta previa].

Similar to these findings **Olugbenga** [7] Indian research where 50 percent of research participants with first trimester bleeding had healthy children at the conclusion of their pregnancies, 45.5 percent suffered miscarriage, 1% had molar pregnancy, and 8% had ectopic pregnancy.

In agreement of our results**, Kangjam *et al*.** [11] the fact that early gestation hemorrhage is linked to negative outcomes is reinforced, and the fact that bleeding in early pregnancy puts the index pregnancy at greater risk is stated.

Also, in **Amirkhani *et al*.** [12] 42 out of 60 women were able to successfully complete their pregnancy. During the pregnancy, 12 percent of them got gestational diabetes, and 27.8% had high blood pressure.

In conclusion, first-trimester vaginal bleeding is a clinically important occurrence for obstetricians as a predictor of preterm birth and placental abruption in both the index and future pregnancies; these results add to the proof of the relationship between pregnancy problems and their recurrence. Our results showed significant difference between the groups regarding placental abruption, placenta previa, antepartum hemorrhage, abortion, postpartum hemorrhage, gestational age and birth weight between the studied groups.

Conflict of interest and Financial Disclosure: None.

REFERENCES

1. Bala N, Wakhloo A, Tabassum N, Kaur N, Anand S. Study of perinataloutcome in patients presenting with first trimester bleeding. Ind J Sci Res; 2020;10[2]:55-65.
2. Critchley HOD, Maybin JA, Armstrong GM, Williams ARW. Physiology of the Endometrium and Regulation of Menstruation. Physiol Rev. 2020 Jul 1;100[3]:1149-1179. doi: 10.1152/ physrev.00031.2019.
3. Lui MW, Ho PC. First trimester termination of pregnancy. Best Pract Res Clin Obstet Gynaecol. 2020 Feb;63:13-23. doi: 10.1016/j.bpobgyn. 2019.06.004.
4. Jharaik H, Sharma A, Chandel A, Sharma R. Evaluation of cases with first trimester bleeding and its outcome. Int J Clin Obstet Gynaecol. 2019;3[4]:203-205. doi: 10.33545/gynae.2019. v3.i4d.312.
5. Scibetta EW, Han CS. Ultrasound in Early Pregnancy: Viability, Unknown Locations, and Ectopic Pregnancies. Obstet Gynecol Clin North Am. 2019 Dec;46[4]:783-795. doi: 10.1016/ j.ogc.2019.07.013.
6. Rydahl E, Eriksen L, Juhl M. Effects of induction of labor prior to post-term in low-risk pregnancies: a systematic review. JBI Database System Rev Implement Rep. 2019 Feb;17[2]: 170-208. doi: 10.11124/JBISRIR-2017-003587.
7. Olugbenga A. Pregnancy outcome in women with early pregnancy bleeding in a tertiary health care facility in Southwestern, Nigeria. J Mahatma Gandhi Inst Med Sci. 2019;24[2]:87.
8. Moon A, Shabbir S. Pregnancy outcome in women presenting with per vaginal bleeding in first trimester of pregnancy. Int J Reprod Contracept Obstet Gynecol. 2021;10[2]:439.
9. Yakistiran B, Yuce T, Soylemez F. First trimester bleeding and pregnancy outcomes: case-control study. Int J Womens Health Reprod Sci. 2016;4[1]:4–7.
10. Kamble PD, Bava A, Shukla M, Nandanvar YS. First trimester bleeding and pregnancy outcome. Int J Reprod Contracept, Obstet Gynecol. 2017 Apr 1;6[4]:1484-8.
11. Kangjam P, Baghel S, Akoijam U. Study of Maternal Outcome in Women with First Trimester Vaginal Bleeding- A Comparative Analysis. J Evol Med Dent Sci-Jemds. 2018 Feb 12;7[7]:919-21.
12. Amirkhani Z, Akhlaghdoust M, Abedian M, Salehi GR, Zarbati N, Mogharehabed M, Arefian S, Jafarabadi M. Maternal and perinatal outcomes in pregnant women with first trimester vaginal bleeding. J Family Reprod Health. 2013 Jun;7[2]:57-61. PMID: 24971104.

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