



Effect of subchorionic hemorrhage on pregnancy outcome in first trimester vaginal bleeding: a prospective study.

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Abstract

Introduction: The first trimester bleeding is a common complication which affects 16-25% of all pregnancies

⁽¹⁾ Various causes for first trimester vaginal bleeding have been identified ranging from Threatened Abortion, complete abortion, incomplete abortion, inevitable abortion, ectopic pregnancy, hydatidiform mole, abnormal placentation which may manifest later in pregnancy causing adverse outcomes such as increased risk of pre-eclampsia, pre-term delivery, Preterm prelabour rupture of membranes (PPROM), Antepartum hemorrhage (APH), and Intrauterine growth restriction (IUGR).⁽²⁾

Aim & Objective: To assess the effects of ultrasound detected subchorionic hemorrhage (SCH) on pregnancy outcome in patients with first trimester vaginal bleeding.

Material And Methods: Prospective cohort study done in the Department of Obs and Gynae, Mahatma Gandhi Medical College and Hospital, Jaipur, from January 2018- June 2019.

Singleton pregnancy with first trimester vaginal bleeding with Period of gestation ≤ 12 wks at the time of presentation, Subchorionic hemorrhage and Fetal viability confirmed by fetal cardiac activity on USG were included and followed up for pregnancy outcome. Patients were divided into two groups depending on the presence of subchorionic hemorrhage.

Results: There were no statistically significant difference between the two groups regarding demographic parameters such as age, parity, previous abortion history and gestational age at the time of presentation of first trimester vaginal bleeding. 9 out of 200 patients had SCH, 3 out of 9 patients (33.3%) had late abortion. 191 out of 200 were without SCH, 23 out of 191 patients (12.1%) had late abortion. The outcome measures of ongoing pregnancy such as gestational age at the time of delivery, route of delivery, birth weight were also similar in both groups.

Conclusion: Ultrasonographically detected subchorionic hematoma increases the risk of late abortion (>12wk) in patients with first trimester vaginal

bleeding.it does not affect the overall pregnancy outcome.

Keywords: Subchorionic Hemorrhage, pregnancy outcome, vaginal bleeding.

Introduction

The first trimester bleeding is a common complication which affects 16-25% of all pregnancies .⁽¹⁾ Various causes for first trimester vaginal bleeding have been identified ranging from Threatened Abortion, complete abortion, incomplete abortion, inevitable abortion, ectopic pregnancy, hydatidiform mole, abnormal placentation which may manifest later in pregnancy causing adverse outcomes such as increased risk of pre-eclampsia, pre-term delivery, Preterm prelabour rupture of membranes (PPROM), Antepartum hemorrhage(APH), and Intrauterine growth restriction (IUGR).⁽²⁾

Around 15% of clinical pregnancies miscarry, and upto 50% of conceptuses may be lost⁽³⁾. The causes of miscarriage are numerous, but include the presence of an abnormal embryo which is incompatible with life or a hostile maternal environment which does not support life. The fetal causes include chromosomal aberrations which may account for upto 60% of miscarriages or lethal structural malformations. However, there is a final common pathway which includes uterine contractions, placental separation, and expulsion of the uterine contents. Expulsion of the embryo and placenta is accompanied by varying degrees of bleeding, which may vary from a few drops of blood to torrential hemorrhage.

Intrauterine hemorrhages are commonly observed features on ultrasound examinations, especially among patients with clinically evident bleeding in early pregnancy, and the incidence has been reported to be 4%–22% ⁽⁴⁾. Subchorionic hematomas (SCHs) usually

appear as hypoechoic or anechoic crescent-shaped areas on ultrasonography. Although the exact etiology is uncertain, they are believed to result from partial detachment of the chorionic membranes from the uterine wall ⁽⁵⁾. Uterine malformations, history of recurrent pregnancy loss, and infections are the possible predisposing factors ⁽⁶⁻⁸⁾. The clinical significance of SCH remains controversial ⁽⁹⁻¹²⁾.

So the aim of this study will be to assess the maternal and fetal outcomes in pregnancies complicated by subchorionic hematoma on ultrasound with first trimester vaginal bleeding.

Material and Methods

It is a Prospective cohort study done in the Department of Obstetrics and Gynaecology, Mahatma Gandhi Medical College and Hospital of MGUMST, sitapura, Jaipur, after getting permission from ethical committee, from January 2018- June 2019.

Inclusion Criteria

- Period of gestation \leq 12 wks at the time of presentation.
- Fetal viability confirmed by fetal cardiac activity on USG.
- Singleton pregnancy.

Exclusion Criteria

- Patients with Missed abortion, inevitable abortion, complete and incomplete abortion, molar pregnancy in first trimester.
- Multiple pregnancy
- Bleeding due to some local cause (cervical/vaginal etiology)
- Patients with chronic medical conditions including diabetes, hypertension, cardiac disease, hepatic and renal disease.
- Bleeding disorders

- Any evidence of fetal anomaly before 12 weeks

Method of study

Study was conducted on patients presenting with complain of first trimester vaginal bleeding (≤ 12 wks) after taking a written informed consent and fulfilling the inclusion and exclusion criteria. A total number of 200 cases of first trimester vaginal bleeding coming to antenatal outdoor of MGMCH were taken. Fetal cardiac activity and SCH were confirmed by Ultrasonography. . Patients were divided into two groups depending on the presence of subchorionic hemorrhage and followed for pregnancy outcome as follows:

Pregnancy outcome: late abortion(>12weeks), preterm delivery, term delivery

Neonatal outcome: healthy fetus (>2.5kg birth weight), low birth weight (<2.5kg birth weight)

In patients whose pregnancies resulted in delivery, gestational age at labour, preterm and term delivery, birthweight,

Result

Table 1: Distribution of cases according to GA at first trimester having subchorionic hemorrhage in present pregnancy

	No. of cases	Percent (%)
<8 weeks	1	11.1
8 ⁺¹ -10 weeks	4	44.4
10 ⁺¹ -12 weeks	4	44.4
Total	9	100.0

In our study, 9 out of 200 cases had subchorionic haemorrhage in first trimester. Out of which (11.1%) cases had subchorionic haemorrhage at <8 weeks Pregnancy, (44.4%) cases had subchorionic haemorrhage at 8⁺¹-10 weeks and 10⁺¹-12 weeks POG each.

Table 2: Pregnancy outcome in cases with subchorionic hemorrhage in first trimester.

pregnancy outcome		
	No. of cases	Percent (%)
Late abortion (>12 weeks)	3	33.3
Preterm	2	22.2
Term	4	44.4
Total	9	100.0

Table 2 showed pregnancy outcome in 9 cases with subchorionic haemorrhage in first trimester. (33.3%) cases had late abortion, (22.2%) cases had preterm delivery and (44.4%) cases had term delivery.

Table 3: Neonatal outcome in cases with subchorionic haemorrhage in first trimester

Neonatal outcome		
	No. of cases	Percent (%)
Healthy fetus (>2.5 kg)	4	66.67

In our study, out of total 9 cases of subchorionic haemorrhage in first trimester only 6 cases had live births, 3 cases had late abortion. (66.67%) cases had healthy fetus with >2.5kg birth weight and (33.33%) cases had LBW(<2.5kg).

Discussion

First-trimester bleeding is not only associated with miscarriage but also with a higher rate of pregnancy complications. First trimester bleeding is often a sign of threatened abortion and as such worrisome for both patient and doctor. If a viable foetus is observed with a blood collection or clot around the foetal sac in ultrasound, then bed rest can be advised; however, there is no evidence that any conservative or medical management is beneficial. Neither progesterone nor

HCG injections have demonstrated to be beneficial in improving pregnancy outcome.

Bleeding during first trimester was associated with increased risk of preterm delivery⁽¹³⁾. Because of impaired implantation and invasive trophoblasts, spontaneous abortion may occur in early pregnancy while preterm delivery, PPRM, placental abruption and preeclampsia may happen in later period. Ultrasound examination is considered an important investigation for the diagnosis of the cause of bleeding.

The presence of SCH in patients with threatened abortion increases the risk of miscarriage. However, it does not affect the gestational age at miscarriage or the duration between the first bleeding and miscarriage. In patients whose pregnancies resulted in delivery, gestational age at labor, birth weight, preterm delivery, and cesarean section rates were not affected by the presence of SCH.

In our study, 9 out of 200 cases (4.5%) had subchorionic haemorrhage in first trimester. Out of which (11.1%) cases had subchorionic haemorrhage at <8 weeks POG, (44.4%) cases had subchorionic haemorrhage at 8⁺¹-10 weeks POG and 10⁺¹-12 weeks POG each. [Table 1]. Sarada K et al, (2018)⁽¹⁴⁾, reported that out of 230 patients only 11 patients (4.7%) showed subchorionic haemorrhage. Out of 11 patients, (9.1%) cases had SCH at < 7 weeks, (27.3%) cases had SCH at 8-10 weeks and (9.1%) cases had between 10-12 weeks gestation age. In a study by Dongol A et al.⁽¹⁵⁾, (42.9%) cases had subchorionic haematoma with threatened abortion.

In our study, 9 cases were having subchorionic haemorrhage in first trimester. Among them, 3 (33.3%) cases had late abortion, 2 (22.2%) cases had preterm delivery and 4 (44.4%) cases had term delivery. [Table 2] Manonmani and Nandhini ⁽¹⁶⁾, showed (48.2%)

cases had early pregnancy loss and (51.8%) cases continued pregnancy. A study by Sarada K et al.⁽¹⁴⁾ showed (45%) cases of early pregnancy loss and (55%) cases continued pregnancy.

In a Turkish case-control study, Özkaya et al. ⁽¹⁷⁾ reported the outcomes of 43 patients with SCH, and they found that the presence of SCH increases the risks of miscarriage and intrauterine growth restriction but not preterm delivery.

The results of our study were partially concordant with the literature, as we could only show that the presence of SCH increased the risk of miscarriage. However, we failed to show any significant relationship between the presence of SCH and ongoing pregnancy outcome measures.

Conclusion

Subchorionic hemorrhage increases chances of late abortion (>12weeks) in patients with first trimester vaginal bleeding. However its incidence is less, so exact effect on pregnancy outcome due to subchorionic hemorrhage could not be assessed. More prospective studies are needed to ascertain the effect on pregnancy outcome.

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