

A Study on Pregnancy Outcome in Women with Subchorionic Haemorrhage Detected in First and Second Trimester of Pregnancy in Kashmir Valley

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ABSTRACT

Background and objective: The most common sonographic abnormalities and the most common cause of first trimester miscarriage, mostly associated with vaginal bleeding is subchorionic hemorrhage. The main aim of present study conducted in Kashmir valley was to find out the effect of subchorionic hemorrhage in first and second trimester of pregnancy outcome.

Methods: In the present study carried out in 2018-19 using simple random sampling design, 150 antenatal women with viable intrauterine pregnancy between 6 and 13 weeks were included in this study and with diagnosis of subchorionic hematoma with or without genital bleeding and visible heart rate by ultrasound. The study assessed the relationship of the volume size of subchorionic hematoma, maternal age and gestational age at time of the diagnosis with adverse pregnancy outcomes. The women with a non-viable pregnancy, fetal abnormality, multiple pregnancy and women with medical diseases were excluded from our study.

Results: In the present study the majority of the respondents (32%) were in the age group of 26-30 years with age ranged from 19 to 43 years, showed ultrasonographic evidence of a live fetus and subchorionic hematoma. The gestational age of 71.33% of the women under study was less than 12 weeks, 52.67% reported Primigravida and 47.33% Multigravida. The size of hematoma of 62% of patients under study was less than 5cm³, and 16.67% of patient had a hematoma more than 10cm³ in size. The

study showed that previous miscarriage and current pregnancy outcome are not associated (P>0.05), maternal age, size of haematoma (cm³) and pregnancy outcome were nor related statistically (P>0.05), Gestational age and size of haematoma (cm³) are associated statistically (P<0.01).

Conclusion: The subchorionic hematoma in first and second trimester of pregnancy related with unfavorable pregnancy outcome (spontaneous miscarriage and preterm delivery). The women with subchorionic hemorrhage should receive more counseling as to the risks to their pregnancy may increase risk for undesirable pregnancy outcome.

Keywords: Kashmir, Subchorionic hemorrhage, Ultrasonography, Pregnancy outcome, Vaginal bleeding, Miscarriage.

INTRODUCTION

The first trimester bleeding is one of the most regular obstetric problems complicating 16 to 25% of all pregnancies [1, 2] which causes the bulk of the emergency admissions and also regular reason for ultrasound examination. In the first trimester vaginal bleeding is common occurring in 20 to 40% of pregnant women which often causes anxiety about outcome of pregnancy. It could be any combination of light or heavy, intermittent or constant, painless or painful. Ectopic pregnancy, Miscarriage (threatened, inevitable, incomplete and complete), Implantation of the pregnancy and Cervical, vaginal, or uterine pathology

(e.g., polyps, inflammation/infection, trophoblastic disease) are the major four sources of non traumatic bleeding in early pregnancy. It is observed that bleeding associated to miscarriage is the most common non traumatic cause of first trimester bleeding. A subchorionic hematoma is the pooling of blood between the chorion and the endometrium which may happen spontaneously and is generally associated with vaginal bleeding. The study [3] reported that a subchorionic hemorrhage or hematoma is a risk factor for spontaneous abortion, particularly when it amounts to 25 percent or more of the volume of the gestational sac. With an incidence of 3.1% of all pregnancies, it is the most common sonographic abnormalities and the most common cause of first trimester miscarriage. In the incidence of vaginal bleeding, an imperative finding on ultrasound examination is a subchorionic hematoma., a small hematoma does not increase the risk of miscarriage but, larger hematomas increase risk of miscarriage and other poor pregnancy outcomes e.g., placental abruption, preterm prelabor rupture of membranes, preterm labor and stillbirth. The association of the diagnosis of subchorionic hematoma with different complications during pregnancy have been reported [4] and some studies suggested that premature abruption of the placenta, premature break of membranes; preeclampsia and preterm delivery are linked with the increase in hematoma. [5] It is reported that there is a significant relation between gestational age at the time of ultrasound evaluation of the subchorionic hematoma and the development of abortion. [6,7] The pregnancy outcome associated with subchorionic hematoma also relates to location, with poorer outcomes as evidence involving to the size of the hematoma and the risk of adverse outcomes is inconclusive. [8] In the literature, there are mixed reports about the relation between different obstetric complications and the volume of the hematoma. The studies [9, 10] reported that there is not any relation

between different obstetric complications and the volume of the hematoma while the study [11] reported that there is a significant correlation between volume of the hematoma and the different obstetric complications. The incidence of intrauterine hematoma as reported has a wide range (.5% to 22%0, although symptoms and signs are so uneven that the patient may have bleeding of varying quantities ranging from light spotting to heavy flow with clot. The study [12] reported that the bleeding of pregnant women can be painless or there may be mild abdominal cramping. The studies [8, 6] reported that relations between subchorionic hemorrhage and multiple adverse pregnancy outcomes, including preterm labor, spontaneous miscarriage, placental abruption, intrauterine growth restriction, intrauterine fetal demise are controversial. Generally, we cannot spot any cause for a subchorionic clot, pre-existing medical conditions, autoimmune diseases, and immunological factors have been associated with intrauterine hematoma, but the etiology of this condition is still unknown. [4] It was also reported in various studies [13, 14] that relation between the volume of the hematoma and complications of pregnancy, particularly in relation to spontaneous abortion, is controversial. To authors' knowledge, very little work has been done on this topic in Kashmir to determine the effect subchorionic hematoma on pregnancy outcome. Therefore, this research work was carried out with an aim to find out the effect of subchorionic hemorrhage in first and second trimester of pregnancy outcome in Kashmir valley.

METHODOLOGY

In the present study 150 antenatal women with viable intrauterine pregnancy between 6 and 13 weeks were included and with diagnosis of subchorionic hematoma with or without genital bleeding and visible heart rate by ultrasound. The Ultrasound is the imaging modality of choice for subchorionic hematoma as ultrasound can be performed rapidly at the patient bed side

and it has no risks to the pregnancy outcome. The pregnant women who were referred to Maternity Hospitals Government or Private in Kashmir valley (Lal Ded Hospital, Jawaharlal Nehru Memorial Hospital, Sheri Kashmir Institute of Medical Sciences etc) for ultrasound examination purpose because of vaginal bleeding in the first and second trimester of pregnancy and those who were found to have a subchorionic hematoma in the presence of singleton live embryo or fetus were included in this study. The purpose of the study was explained to the participants before taking their consent to participate in the study and anonymity was maintained. The base line data were recorded on a questionnaire by direct interview with the patients under study. The women with a non-viable pregnancy, fetal abnormality, multiple pregnancy and patients with medical diseases were excluded from our study. In our study the main outcome measures that included size of haematoma, gestational age and maternal age were compared for adverse pregnancy outcome (preterm labor, miscarriage, fetal birth weight) as well as term birth. The gestational age of 12 weeks,

and the size of 10 cm³ of hematoma were taken as cut-off value for the analysis purpose. The Statistical package for the social science (SPSS version 20) was used for data entry and analysis of data. The standard statistical tools were used for analysis of data and p- value of ≤ 0.05 was regarded statistically significant at 5% level of significance whereas p-value ≤ 0.01 was considered as significant at 1% level of significance.

RESULTS AND DISCUSSION

In the present study 150 women were selected for the study at random on their choice and the majority of the respondents (32%) were in the age group of 26-30 years with age ranged from 19 to 43 years, showed ultrasonographic evidence of a live fetus and subchorionic hematoma. The gestational age of 71.33% of the women under study was less than 12 weeks, 52.67% reported Primigravida and 47.33% Multigravida. It was observed that the size of hematoma of 62% of patients under study was less than 5cm³, and 16.67% of patient had a hematoma more than 10 cm³ in size (Table 1).

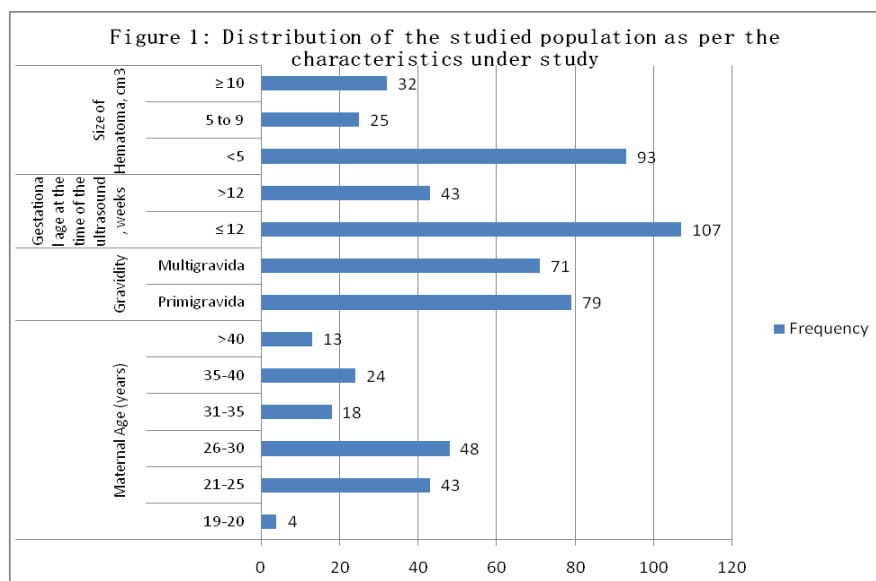
Table 1: General characteristics of the sample under study.

S.No.	Characteristics	Type	Frequency	Percentage
1.	Maternal Age (years)	19-20	4	02.66
		21-25	43	28.67
		26-30	48	32.00
		31-35	18	12.00
		35-40	24	16.00
		>40	13	08.67
2.	Gravidity	Primigravida	79	52.67
		Multigravida	71	47.33
3.	Gestational age at the time of the ultrasound, weeks	≤ 12	107	71.33
		>12	43	28.67
4.	Size of Hematoma, cm ³	<5	93	62.00
		5-9	25	16.67
		≥ 10	32	21.33

The data presented in Table 2 shows that previous miscarriage and current pregnancy outcome are not associated ($P > 0.05$) also results of our study revealed that there is a statistical association between previous history of preterm delivery and current preterm delivery ($P < 0.01$).

Table 2: Relation of pregnancy outcome with previous miscarriage and previous preterm

S.No.	Variable	Response	Pregnancy Outcome			Total	Chisquare	P-value
			Miscarriage (%)	Preterm delivery (%)	Term delivery (%)			
1.	Previous Miscarriage	Yes	6 (42.86)	3 (21.43)	5 (35.71)	14	1.095	>0.05
		No	41 (30.15)	29 (21.32)	66 (48.53)	136		
2.	Previous preterm	Yes	3 (23.08)	8 (61.54)	2 (15.38)	13	14.300	<0.01
		No	41 (29.93)	24 (17.52)	72 (52.55)	137		



The data presented in Table 3, revealed that out of 55 patients in the age group of >30 years, the majority of respondents had miscarriage (36.36%), followed by term delivery (41.82%) and then followed by preterm delivery (21.82%). In the age group of 26-30 years maximum out of 48 patients majority of patients had preterm delivery (56.25%), followed by miscarriage (29.17%) and followed by preterm delivery (14.58%). Further, in the age group of 19-25 years out of 47 patients majority of patients (42.55%) had term delivery, followed by (31.91%) miscarriage and then followed by preterm (25.54%). The maternal age and pregnancy outcome are related however statistically not significant (P>0.05).

Table 3: Association between maternal age and Pregnancy Outcome among studied sample

S.No.	Maternal Age in (years)	Pregnancy Outcome			Total	Chisquare	P-value
		Miscarriage (%)	Preterm delivery (%)	Term delivery (%)			
1.	19-25	15 (31.91)	12 (25.54)	20 (42.55)	47	3.243	>0.05
2.	26-30	14 (29.17)	7 (14.58)	27 (56.25)	48		
3.	>30	20 (36.36)	12 (21.82)	23 (41.82)	55		

The data presented in Table 4, revealed that the percentage of miscarriage in our study was 32.67%, the percentage of preterm was 20.67% and term delivery was 40.67%, respectively.

It was observed that Preterm delivery (<37 weeks) was the most frequently investigated outcome in pregnant women with subchorionic and retro placental hematomas. Our results are in somewhat in agreement with the earlier study. [15] The data presented in Table 4, further revealed that size of haematoma (cm³) and pregnancy outcome was not significantly associated (P>0.05). The reports on hematoma volume and pregnancy

outcome report are controversial as many studies reported a significant correlation between “large” hematomas and adverse outcome of pregnancy, [11] while many studies failed to demonstrate this association. [6] In present study the size of 10 cm³ of hematoma was taken as the cut-off value a statistically non-significant association was found between size of hematoma and the outcome of pregnancy (P >0.05). The results of our study differ from the earlier result (Bennett et al., 1996) who reported that large volumes increased 2.4-fold the risk of spontaneous miscarriage in their study. The results are also presented in Figure 2.

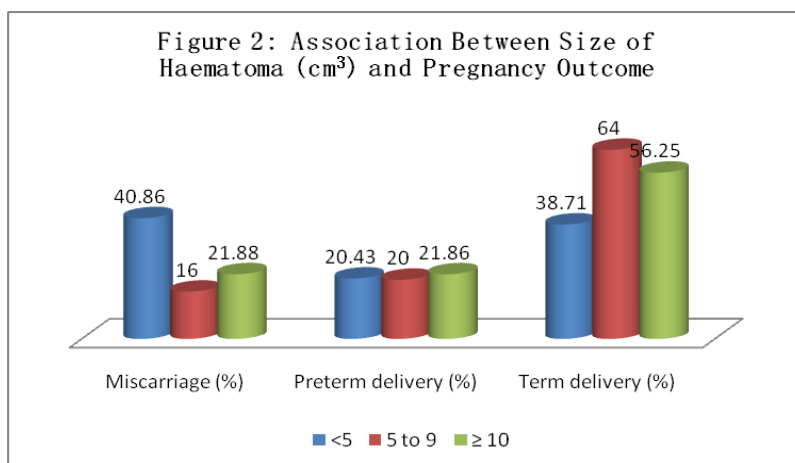


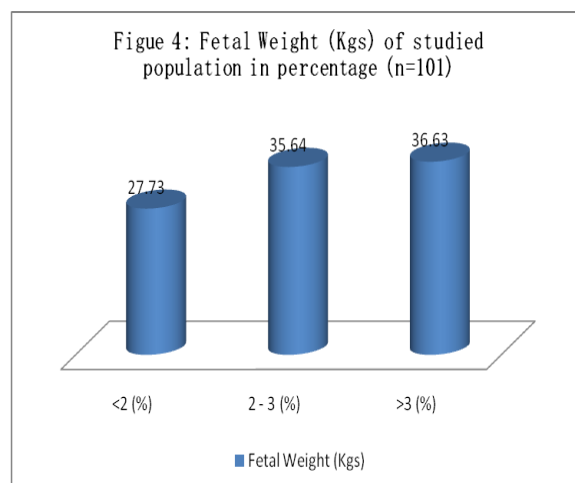
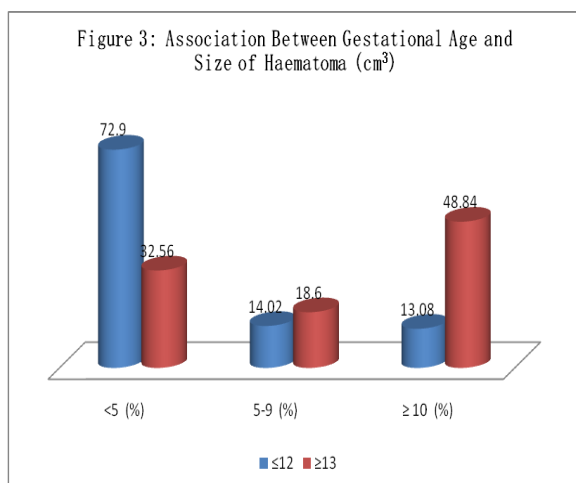
Table 4: Association between size of haematoma and Pregnancy Outcome among studied sample

S.No.	Size of Haematoma (cm ³)	Pregnancy Outcome			Total	Chisquare	P-value
		Miscarriage (%)	Preterm delivery (%)	Term delivery (%)			
1.	<5	38(40.86)	19(20.43)	36 (38.71)	93	8.71	>0.05
2.	5-9	4(16.00)	5(20.00)	16 (64.00)	25		
3.	≥ 10	7 (21.88)	7 (21.86)	18 (56.25)	32		

The data presented in Table 5, reveals that Gestational age and Size of Haematoma (cm³) of the respondents under study was significantly related (P<0.01). The results of our study are in agreement with the earlier study. [16]

Table 5: Association between Gestational ages and Size of haematoma (cm³) among studied sample

S.No.	Gestational Age	Size of Haematoma (cm ³)			Total	Chisquare	P-value
		<5 (%)	5-9 (%)	≥ 10 (%)			
1.	≤12	78 (72.90)	15 (14.02)	14(13.08)	107	92.119	<0.01
2.	≥13	14 (32.56)	8 (18.60)	21 (48.84)	43		



The data presented in Figure 4, shows that majority (36.63%) of the women understudy who gave birth to child had fetal weight more than 3kgs, followed by 35.64% respondents who had weight of their fetal weight 2-3 kgs and 27.73% women gave birth to child having weigh less than 2 kgs.

CONCLUSION

In the present observational study, 150 antenatal patients who presented with first and second trimester bleeding have been examined and followed up prospectively until the end of pregnancy. It was concluded from our study that the presence of an intrauterine hematoma in

first and second trimester of pregnancy is associated with adverse pregnancy outcome (spontaneous miscarriage and preterm delivery) even though there are no precise management interventions to foil the unfavorable outcomes. The pregnant women with subchorionic hemorrhage should receive more precise counseling as to the risks to their pregnancy may enlarge risk for adverse pregnancy outcome. The results of our study reported that spontaneous miscarriage rate increases with the increase in age. The findings of our study are closely related with the earlier study.^[17] Finally, it was concluded that there are other risks like complications to pregnancy such as stillbirth, abruption placenta, intrauterine growth restriction, fetal distress, placentation and the presence of subchorionic hematoma in early stages of pregnancy affects the normal process of pregnancy. It was suggested that further research on the topic with a large sample size should be conducted in order to get more information related to the topic.

Limitations of present study

The sample size/population used for present study was not large so in future increase in sample size may give more information on the topic.

Conflicts of Interest

The authors report no conflicts of interest.

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Ethical approval: The present study was permitted by the Institutional Ethics Committee

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