

OUTCOME OF PREGNANCIES COMPLICATED BY THREATENED ABORTION IN THE SECOND TRIMESTER OF PREGNANCY - PROSPECTIVE STUDY

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ABSTRACT: AIM: To compare the outcome of pregnancies complicated by bleeding per vaginam between 14- 20 weeks with those not complicated by bleeding per vaginam before 20 weeks. To evaluate the potential determinants of outcome such as gestational age at bleeding, number of bleeding episodes, extent of placental separation or sub chorionic bleed, incidence of complications as placenta previa, abruptio placenta, development of gestational hypertension and pre eclampsia, intra uterine growth restriction, and neonatal outcomes as birth weight, mode of delivery, neonatal ICU admission, and congenital anomalies.

SETTINGS AND DESIGN: This was a prospective, comparative study, for a duration of one year.

STUDY POPULATION: Cases- 100 women admitted in IMCH with first episode of bleeding per vaginam between 14- 20 weeks and continuing their pregnancy after 20 weeks.

CONTROLS: 200 uncomplicated pregnancies attending antenatal outpatient clinic which were followed up till delivery.

EXCLUSION CRITERIA: 1. Women with history of threatened abortion in first trimester were not included in the study. 2. Subjects age more than 35 years. 3. Previous history of abortion. 4. Any significant medical, surgical or gynecological history.

RESULTS: When patients who presented with bleeding pv after completion of 1st trimester were analyzed by USS, a significant number of them had evidence of sub chorionic bleed, heavier the bleed, more the likelihood of presence of sub placental hematoma. There was no significant difference in prevalence of development of hypertensive disorders of pregnancy in both study groups. There was no significant rise in ante partum hemorrhage between cases and controls. Incidence of IUGR, PPRM, PRE TERM LABOR was significantly increased in study group. LSCS rate was not significantly different in both groups. In this study, there was no significant difference in incidence of congenital anomalies in both groups.

STUDY AREA: Tertiary health center - Government medical college, Kozhikode, Kerala.

KEYWORDS: Second trimester, Ultra sound (USS), Threatened abortion, Growth restriction (IUGR), Pre eclampsia, PPRM (Preterm premature rupture of membranes).

MeSH TERMS: Abortion, Threatened, Trimester, Hypertension in, Pregnancy, Ultrasound.

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INTRODUCTION: Threatened abortion presents as vaginal bleeding prior to 20 weeks of gestation. It is the commonest complication of pregnancy, about 15-20% incidence.

More than 90% of threatened abortion occurs in the first trimester. Most abortions in first trimesters are due to chromosomal anomalies. This study aims to identify the course, complications, and outcome of pregnancies that have threatened abortion for the first time after 14 weeks of gestation.

Ultrasound confirms the diagnosis, presence of live intrauterine fetus with growth corresponding to gestational age, with or without evidence of chorionic separation.

Though the incidence of complications in second trimester threatened abortion is less when compared to those with early pregnancy bleeds, adverse prognosis is significantly increased in the former group.

This study focuses on the outcome of pregnancies complicated by bleeding per vaginam after 14 weeks, to those pregnancies which did not have this complication. Stress was given to development of adverse pregnancy outcomes as abnormal placentation, intrauterine growth restriction, pre-eclampsia, and congenital anomalies.

MATERIALS AND METHODS: 100 women who presented with bleeding per vaginam after 14 weeks of gestation, and whose scan showed features of threatened abortion were included in this study. Those women who had bleeding prior to this episode were excluded.

Control was study of pregnancy outcome of 200 uncomplicated pregnancies, with no history of threatened abortion, the age and gravidity were matched to the case study group.

Study data were recorded by direct interview and questionnaire in both case and control group. Follow up of patients done by medical record review during their outpatient visit, when admitted to hospital, labor room monitoring, and assessment of newborn.

The following adverse pregnancy outcomes among the two groups will then be compared. IUGR (estimated fetal weight by USS of < 10th percentile or birth weight of <10th percentile for gestational age).

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- Gestational hypertension (blood pressure > 140/90mm Hg on at least two occasions 6 hours apart).
- Pre-eclampsia(criteria for gestational hypertension plus significant proteinuria).
- PPROM(membrane rupture < 37 completed weeks of gestation).
- Abruptio placenta(premature separation of normally implanted placenta).
- Placenta previa(placenta implanted into the lower uterine segment).
- Caesarean delivery.
- Incidence of PPH (post-partum hemorrhage).
- Neonatal complications.

ETHICS: Ethical approval was granted by Ethical Committee, Government Medical College, Kozhikode.

OBSERVATION AND RESULTS:

RESULTS: Statistical analysis was done using SPSS version 16.0 for Windows. Results were expressed as frequency and percentages. Data was analyzed by chi square test and Fisher's exact test.

Result was calculated in terms of relative risk (RR). 95% confidence interval (CI) for RR was also estimated. A p value < 0.05 was considered to indicate statistical significance.

DISCUSSION: This was a prospective study conducted at IMCH, Government Medical College, Kozhikode.

Only those patients who presented with the first episode of bleeding in second trimester of pregnancy were included in this study (between 14-20 weeks of gestation).

ULTRASOUND EVIDENCE OF THREATENED ABORTION:

Those patients who had USS evidence of either sub chorionic or retro placental hematomas had heavy bleeding, which is statistically significant, this was mentioned by Ball RH, et al 1996⁽¹⁾. Fetal cardiac activity was observed in all patients to diagnose them as threatened abortion.

HYPERTENSIVE DISORDERS: Incidence of hypertensive disorders comparable between cases and controls. This is similar to a study by Weiss et al⁽²⁾, which also showed no significant difference. But Verma et al ⁽³⁾ reported an increase in the incidence of hypertensive disorders.

ANTEPARTUM HAEMORRHAGE: Incidence of ante partum hemorrhage was comparable between cases and controls and did not vary with respect to gestational age. But Saraswat L et al ⁽⁴⁾ reported increased incidence of ante partum hemorrhage.

IUGR: Prevalence of IUGR was significantly more among threatened abortion. This is in accordance with study by Davari Tanha et al⁽⁵⁾.

PPROM: Prevalence of PPROM was increased by About 4 Fold in This Study.

PRETERM LABOR: Preterm Labor was Significantly Higher in Patients with Threatened Abortion. This is in accordance with study by John J et al⁽⁶⁾. A higher incidence of preterm delivery was also reported by Hossain R et al in 2007.⁽⁷⁾

BIRTH WEIGHT: Those with history of threatened abortion gave birth to low birth weight babies, but this is not statistically significant. Incidence of low birth weight babies has been reported by Das AG et al in his study⁽⁸⁾.

CONGENITAL ANOMALY: Prevalence of congenital anomalies was not statistically different among cases and controls.

CONCLUSION: This study was undertaken to predict the outcome of pregnancies that are complicated by threatened abortion after completion of first trimester.

The case and control group was monitored for fetal growth; development of hypertensive disorders; ante partum hemorrhage; development of oligamnios, preterm premature rupture of membranes; preterm birth; congenital anomalies; and birth weight of newborn.

In this study, the interferences obtained were;

1. Heavy bleeding is associated with USS evidence of retro placental separation.
2. No increased incidence of hypertensive disorders in those with second trimester bleed.
3. No increased incidence of ante partum hemorrhage in study group.
4. There was statistically significant rise in incidence of;
 - a. Preterm birth.
 - b. Preterm premature rupture of membranes (PPROM).
 - c. Intrauterine growth restriction (IUGR).
5. No increase in incidence of congenital anomalies.

Hence, this study helps the obstetrician to anticipate the expected problems which can occur in a woman who presents with second trimester threatened abortion, educate the pregnant lady about the possible outcome, allay her fears of congenital anomaly, and take steps to prevent IUGR, PPROM, and preterm labor.

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		USG		
		YES	NO	Total
TYPE OF BLEEDING	LIGHT			
	Number	16	47	63
	%	25.4%	74.6%	100%
	HEAVY			
	Number	33	4	37
	%	89.2%	10.8%	100%
Total	Number	49	51	100
	%	49.0%	51.0%	100%

Table 1: USS Evidence of threatened abortion

A significant higher number of heavy bleeding patients had USS evidence of threatened abortion, p value <0.00001. Fetal cardiac activity was documented in all cases.

		HYPERTENSIVE DISORDERS						
		Nil	GHTN	Mild PE	Severe PE	Eclampsia	HELLP	Total
Threatened abortion								
	Number	87	6	2	5	0	0	100
	%	87.0%	6.0%	2.0%	5.0%	0%	0%	100%
Normal pregnancy								
	Number	171	19	1	6	2	1	200
	%	85.5%	9.5%	0.5%	3.0%	1.0%	0.5%	100%
Total								
	Number	285	25	3	11	2	1	300
	%	86.0%	8.3%	1.0%	3.7%	0.7%	0.3%	100%

Table 2: Prevalence of hypertensive disorders

Hypertensive disorders were not significantly different between the two groups, RR-0.9 (0.49-1.69), p -0.724.

		APH			
		Nil	Abruption	Placenta previa	Total
GROUP	Threatened abortion				
	Number	96	2	2	100
	%	96.0%	2.0%	2.0%	100%
	Normal pregnancy				
	Number	194	4	2	200
	%	97.0%	2.0%	1.0%	100%
Total					
	Number	290	6	4	300
	%	96.7%	2.0%	1.3%	100%

Table 3: Antepartum Haemorrhage

There was no significant difference in prevalence of ante partum hemorrhage between groups, RR- 1.33 (0.39-4.62), p- 0.441.

		OTHER OUTCOMES						
		Nil	IUGR	IUD	Oligaminos	Abortion	PPROM	Total
Threatened abortion								
	Number	74	11	1	5	1	8	100
	%	74.0%	11.0%	1.0%	5.0%	1.0%	8.0%	100%

Normal pregnancy							
Number	175	10	5	5	1	4	200
%	87.5%	5.0%	2.5%	2.5%	0.5%	2.0%	100%
Total							
Number	249	21	6	10	2	12	300
%	83.0%	7.0%	2.0%	3.3%	0.7%	4.0%	100%
Table 4: Other Outcomes							

Prevalence of IUGR was more among threatened abortion patients, RR-2.39 (1.06-5.42), p-0.032. Incidence of PPRM was also significantly more in threatened abortion group RR-4.37 (1.35-14.09), p- 0.011.

		INTRAPARTUM COMPLICATIONS		
		Nil	Preterm Labor	Total
GROUP	Threatened abortion			
	Number	83	17	100
	%	83.0%	17.0%	100%
	Normal pregnancy			
	Number	186	14	200
	%	93.0%	7.0%	100%
Total				
	Number	269	31	300
	%	89.7%	10.3%	100%
Table 5: Intrapartum complications				

Preterm labor was significantly higher among threatened abortion patients, RR-2.43, (1.25-4.72), p-0.007.

		CONGENITAL ANOMALY							
		Nil	2	3	4	5	6	7	Total
Threatened abortion									
	Number	99	0	1	0	0	0	0	100
	%	99.0%	0%	1.0%	0%	0%	0%	0%	100%
Normal pregnancy									
	Number	193	2	1	1	1	1	1	200
	%	96.5%	1.0%	0.5%	0.5%	0.5%	0.5%	0.5%	100%
Total									
	Number	292	2	2	1	1	1	1	300
	%	97.3%	0.7%	0.7%	0.3%	0.3%	0.3%	0.3%	100%
Table 6: Congenital Anomaly									

Prevalence of congenital anomaly was not significantly different between two groups, RR-0.28(0.04-2.29), p- 0.191.

		BIRTH WEIGHT			Total
		<2.5kg	2.5-3.5kg	>3.5kg	
GROUP	Threatened abortion				
	Number	32	66	2	100
	%	32.0%	66.0%	2.0%	100%
	Normal pregnancy				
	Number	44	151	5	200
	%	22.0%	75.5%	2.5%	100%
Total					
	Number	76	217	7	300
	%	25.3%	72.3%	2.3%	100%
Table 7: Birth Weight					

Threatened abortion patients gave birth to more number of low birth weight babies, though it was not statistically significant, RR-1.45 (0.99-2.14), p-0.0.