

# Pregnancy Outcome of Patients Complicated by Threatened Abortion

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## Abstract

The study was conducted among 100 pregnant women who presented with vaginal bleeding before 20 weeks of gestation, 34% of women aborted, 21.2% had preterm delivery, 23.4% had low birth weight babies, apgar score was less than 7 in 20.3% babies and perinatal mortality was 3%. Serum T<sub>3</sub>, T<sub>4</sub> levels were in lower range in patients who aborted as compared to those patients who continued with pregnancy.

## INTRODUCTION

Uterine bleeding during pregnancy represents a definite threat to the developing embryo and is often followed shortly by termination of the gestation<sup>1,2</sup>. Clinical diagnosis of threatened abortion is presumed when any bloody discharge or vaginal bleeding appears during first half of pregnancy 50% of women with vaginal bleeding in 1<sup>st</sup> trimesters of pregnancy abort and 50% continue pregnancy<sup>2</sup>. There is increased risk of suboptimal pregnancy outcome in the form of preterm delivery, low birth weight and unexplained intrauterine death in these cases<sup>4-12</sup>. It has been suggested that gestational bleeding and little or no symptomatology is almost always the consequence of marginal separations of placenta. Gestational bleeding no associated with placenta previa involved permanent decidual placental damages leading to impairment of oxygen transfer and fetal nutrition<sup>13</sup>. Hypothyroidism in pregnancy is associated with adverse fetal outcome as well as increase in obstetric complications. Women with hypothyroidism have a lower rate of pregnancy and a high rate of spontaneous miscarriages compared to normal population<sup>14-20</sup>.

## MATERIAL AND METHODS

To know the outcome of pregnancy complicated by threatened abortion the study was conducted in Government Lal Ded Hospital, an associated hospital of Government Medical College Srinagar with eligible mothers in childbearing age taken from 19-34 years. As quoted by Shaw Committee (1996), number of abortions per annum is 10% of total live births i.e. seven million per annum. The prevalence of patients coming with bleeding per vaginum

before 20 weeks of gestation in Government Lal Ded Hospital, Srinagar is around 1800 per annum and the sample size of the study population was accordingly calculated to be 100 by systematic random sampling. The study was conducted in 100 women with early pregnancy bleeding (before 20 weeks of gestation); a group of 100 pregnant women who had no history of bleeding per vaginum during their pregnancy delivered in LDH were taken as control. The patients were selected in OPD of Lal Ded Hospital from January 2001 to May 2003. Women from same socio-cultural and ethnic groups from plains of Kashmir valley were taken in study group. Women with gestational age less than 20 weeks and as closed were included in study. Exclusion criteria – cervical erosion, bleeding disorders, hydatidiform mole, cardiac diseases, diabetes mellitus, hepatic disease multiple gestation, eclampsia and severe PET.

A detailed obstetrical and medical history was taken, timing and intensity of bleeding was noted, thorough examination was done which included general physical examination, signs of anaemia, detection of icterus, pulse, blood pressure recorded, P/A examination, P/S examination and P/V was done. Baseline investigations including Hb, blood grouping and typing, BT, CT, PC, TLC, DLC, urine examination, blood sugar, thyroid profile, ECG and USG for gestational age, fetal viability and placental localization were done.

Patients of threatened abortion were given bed rest, sedation for two weeks, subsequently they were allowed to resume some activity but not to travel and go for coitus. Patients were followed by thereafter during antenatal, intranatal and

up to one week postnatal period. Sub-optional pregnancy was described as birth weight less than 2501gms or gestational age less than 37 weeks and still birth.

## OBSERVATIONS

In the study group 34% aborted, of these 23.5% were missed abortions, 25.2% were incomplete abortions, 17.6% had complete abortions and 23.5% had inevitable abortions, of the rest 66%, 21.2% had preterm delivery and in control group, there were 7% preterm deliveries and the incidence of preterm delivery in cases was 3.85 times more than controls which was significant ( $p < 0.05$ ) Table-1. In the study group apgar score was  $< 7$  in 20.3% babies and in control group it occurred in 13.2%. In the study group 78.8% of babies were born full term and in control group term deliveries occurred in 93% of cases which was significant. In the study group, 23.4% babies were born with low birth weight while as in controls low birth was seen in 8.1% babies. The average birth weight in term and low birth weight babies in study group was 2.18 to 2.0kgs and in control group it was 2.30kgs, the difference was significant ( $p < 0.05$ ) table-2. In study group heavy bleeding was reported in 33% and slight bleeding in 67%. Abortions occurred in 45.4% among heavy bleeders and 28.45% in slight bleeders (table-3). Preterm deliveries occurred in 18.2% of heavy bleeders and 11.9% of slight bleeders. Low birth weight occurred in 43.8% among heavy bleeders and 16.6% of slight bleeders (table-3).

Among aborters mean serum  $T_3$  levels were  $0.88 \pm 0.27$ ng/ml while as among non-aborters the levels were  $1.52 \pm 0.41$ ng/ml. The mean serum  $T_4$  levels among aborters was  $5.93 \pm 0.94$  ng/dl and among non-aborters it was  $8.46 \pm 1.06$  ng/dl (table-4). The difference in the mean serum TSH levels between aborters and non-aborters was not significant.

## Figure 1

Table – 1 - Outcome of pregnancy in cases of threatened abortion comparing with non-bleeders

Pregnancy Outcome	Cases		Control		OR	p value
	n	%	n	%		
Abortion	34	34	-	-	-	
Preterm delivery	14	21.2	7	7.0	3.85	$< 0.05$
Term delivery	52	78.8	93	93	3.85	$< 0.05$
Low birth weight	15	23.4	8	8.0	3.44	$< 0.05$
Apgar score less than 7	13	20.3	13	13	1.66	$> 0.05$
Perinatal mortality	2	3.0	2	2.0	1.54	$> 0.05$
Congenital malformation	2	3.0	2	2.0	1.54	$> 0.5$

## Figure 2

Table – 2 - Comparative assessment of effect of early pregnancy bleeding on the neonatal birth weight

Pregnancy Outcome	Weight in Kgs			
	Cases		Control	
	n	Mean $\pm$ SD	n	Mean $\pm$ SD
Preterm and normal birth weight	7	$2.74 \pm 0.11$	2	$2.75 \pm 0.18$
Preterm and low birth weight	7	$2.32 \pm 0.11$	5	$2.28 \pm 0.13$
Term and normal birth weight	42	$2.82 \pm 0.20$	88	$2.80 \pm 0.17$
Term and low birth weight	8	$2.18 \pm 0.20$	3	$2.30 \pm 0.01$
Total	64	$2.68 \pm 0.30$	98	$2.75 \pm 0.21$

## Figure 3

Table – 3 - Effect of severity of bleeding on pregnancy outcome

Pregnancy Outcome	Cases				OR	p value
	Slight Bleeding		Heavy Bleeding			
	n	%	n	%		
Abortion	19	28.4	15	45.4	2.10	> 0.05
Preterm delivery	8	11.9	6	18.2	2.5	> 0.05
Term delivery	40	59.7	12	36.4	2.5	> 0.05
<b>Total</b>	<b>67</b>	<b>100</b>	<b>33</b>	<b>100</b>		
Normal birth weight	40	83.33	9	56.2	3.89	> 0.05
Low birth weight	8	16.6	7	43.8	3.89	> 0.05
<b>Total</b>	<b>48</b>	<b>100</b>	<b>16</b>	<b>100</b>		

## Figure 4

Table – 4 - Comparison of Serum T, T and TSH in bleeding P/V cases (n=100) before 20 weeks of gestation

Pregnancy Outcome	Serum Thyroid Hormone Levels						
	n	$T_3$ Level	p value	$T_4$ level	p value	TSH Level	p value
Abortions	34	$0.88 \pm 0.27$	$< 0.05$	$05.93 \pm 0.94$	$< 0.05$	$1.99 \pm 1.25$	$> 0.05$
Non-aborters	36	$1.52 \pm 0.41$		$8.46 \pm 1.06$		$1.67 \pm 1.01$	
Preterm	14	$1.60 \pm 0.41$	$> 0.05$	$8.51 \pm 1.17$	$> 0.05$	$1.44 \pm 0.80$	$> 0.05$
Term	52	$1.50 \pm 0.41$		$8.44 \pm 1.04$		$1.73 \pm 1.05$	
Apgar score ( $< 7$ )	13	$1.64 \pm 0.77$	$> 0.05$	$8.22 \pm 1.06$	$> 0.05$	$1.52 \pm 0.68$	$> 0.05$
Apgar score ( $> 7$ )	51	$1.47 \pm 0.41$		$8.51 \pm 1.02$		$1.72 \pm 1.08$	

## DISCUSSION

First trimester vaginal bleeding is an important predictor of adverse fetal outcome<sup>12</sup> with increased risk of preterm delivery, delivery of low birth weight infant, and abortion<sup>4-12</sup>.

In our study we found in women with bleeding before 20

weeks of gestations, 34% aborted and total foetal loss (abortions + perinatal death) was 37%. The study is consistent with the studies of Adelusi B. et al<sup>3</sup>, Lipitz et al<sup>21</sup>, Queekin et al<sup>22</sup>, Karim et al<sup>11</sup>.

In our study 21.2% of women had preterm delivery which is consistent with the studies of Strobino et al<sup>2</sup>, William S et al<sup>8</sup>, Sipila P et al<sup>23</sup>, Ananth CV et al<sup>9</sup>. Low birth weight was seen in 23.4% of study cases; heavy bleeding was associated with an increased risk of low birth weight (odds ratio 2.2).

Mau G<sup>24</sup>, Yang et al<sup>25</sup>, Hertzits et al<sup>7</sup> in their study did not show any increase in frequency of small for gestational age infants in pregnancies complicated by early gestational bleeding. The results of studies conducted by Beetzofin JH et al<sup>6</sup>, Berkowitz GS et al<sup>5</sup>, Ananth CV<sup>9</sup>, Verma et al<sup>26</sup>, Hohlweg-Majenl P et al were consistent with our study. In present study we found 3% incidence of congenital malformations which was supported by the study of Sipila et al<sup>23</sup>, Ananth CV et al<sup>9</sup> and other studies<sup>2,4,8</sup> did not observe any congenital malformations.

In our study the serum T<sub>3</sub> and T<sub>4</sub> levels were at a lower range of normal in bleeders who subsequently aborted, there was no change in TSH level in any patients. Maruo T et al<sup>18</sup> and Bolz M<sup>19</sup> concluded that women with hypothyroidism have a high rate of spontaneous miscarriages compared to normal populations. This indicated that maternal thyroid hormones may have some possible role in maintaining pregnancy.

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