

Outcome of pregnancies complicated with vaginal bleeding between 14 and 22 gestational weeks

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Objective

To evaluate the clinical significance of vaginal bleeding in pregnant women between 14 and 22 gestational weeks.

Methods

This is a retrospective cohort study consisting of 669 pregnant women conducted between September, 2010 and December, 2013. The outcomes of the 297 pregnant women with primary vaginal bleeding between 14th and 22nd gestational weeks were assessed. After ruling out patients without follow-up and pregnancies ending in a spontaneous abortion, we examined 232 pregnancies compared with 327 pregnant women without vaginal bleeding. Both of the two groups included 20-35 year-old healthy women with singleton pregnancies. Patients who had known risk factors for spontaneous abortion were excluded from both groups. Patients with morbid obesity (n: 16), uterine septum (n: 10), hypothyroidism (n: 9), thrombophilia (n: 5), asthma (n: 5) and cervical insufficiency (n: 4) were excluded. Power analysis and the sample size calculation were performed before the study. Type-2 statistical error was considered at a level of 0, 20. Statistical analysis was performed using the SPSS software version 18. Normally distributed parametric variables were tested by independent Student's t-test. The chi square-test was used to analyze nominal variables in the form of frequency tables. Fisher's exact test was performed instead of Chi-square test due to the expected counts less than 5. A p value less than 0. 05 was considered to show a statistically significant result.

Results

29 (4. 3%) patients were lost to follow up and 42 (6. 3%) pregnant women underwent a spontaneous abortion. Mean age and body mass index of 232 pregnant women with second trimester vaginal bleeding were not significantly different when compared with 327 controls without vaginal bleeding respectively (26. 56±4. 78 vs 26. 40±4. 16 years, p>0. 05). Mean pregnancy duration and birth weight of case group was significantly lower from those of the control group (37. 47±3. 36 vs 38. 96±1. 13 weeks; 3010±777 vs 3349±401 grams, p<0. 001). Vaginal bleeding in the case group was associated respectively with a 13. 9 and 12. 4 fold increased risk factor for preterm birth and premature preterm rupture of membrane (p<0. 001). Vaginal bleeding enhanced 6. 5 fold the risk for placenta previa (p<0. 001). Odds ratio for gestational diabetes mellitus in the case group was significantly higher than that in the pregnant women without vaginal bleeding (3. 9% vs 1. 2%, p<0. 001). However, ratios of pregnancy induced hypertensive disorders, macrosomia, intrauterine growth restriction, oligohydramnios, polyhydramnios and stillbirth were not statistically different between the two groups (p>0. 05).

Conclusion

Pregnant women with isolated second trimester vaginal bleeding are significantly more likely to be complicated by preterm birth, preterm premature rupture of membranes or placenta previa; for this reason these pregnancies should be closely followed up for serious maternal and fetal complications.

Table 1. Demographic Characteristics of the Study (Second trimester threatened abortion) and Control Groups.

Characteristic	Study (n=232)	Control (n=327)	P value*
Maternal age (year) ^a	26.56±4.78	26.40±4.16	0.668
Maternal BMI (kg/m ²) ^a	29.47±3.66	29.10±3.74	0.250
Pregnancy duration (week) ^a	37.47±3.36	38.96±1.13	<0.001†
Birth weight (gram) ^a	3010±777	3349±401	<0.001†

Table 2. Birth outcome of the Study (Second trimester threatened abortion) and Control Groups.

Variable	Study (n=232)	Control (n=327)	P value*
Primigravida	105 (45.2%)	138 (42.2%)	0.473
Multiparity	127 (54.8%)	189 (57.8%)	0.473
Vaginal delivery	132 (56.8%)	141 (43.1%)	0.001†
Cesarean delivery	100 (43.2%)	186 (56.9%)	0.001†
Fetal distress	14 (6.0%)	34 (4.2%)	0.070

Table 3. Obstetric Outcome of the Study (second trimester threatened abortion) and Control Groups.

Variable	Study (n=232)	Control (n=327)	OR	CI (95%)	P value*
Preterm labour	48 (20.7%)	6 (1.8%)	13.9	5.8-33.2	<0.001†
PPROM	24 (10.3%)	3 (0.9%)	12.4	3.7-41.9	<0.001†
IUGR	4 (1.7%)	7 (2.1%)	0.8	0.2-2.7	0.727
Stillbirth	5 (2.2%)	9 (2.8%)	0.7	0.2-2.3	0.656
GHT ^a	3 (1.3%)	9 (2.8%)	0.4	0.1-1.7	0.376
Oligohydramnios	9 (3.9%)	14 (4.3%)	0.9	0.3-2.1	0.814
GDM	9 (3.9%)	4 (1.2%)	3.2	0.9-10.7	0.040†
Macrosomia	8 (3.4%)	20 (6.1%)	0.5	0.2-1.2	0.154
Polyhydramnios ^{a,b}	4 (1.7%)	0 (0%)	-	-	0.029†
Placental abruption ^{a,b}	3 (1.3%)	0 (0%)	-	-	0.071
Placenta previa ^a	9 (3.9%)	2 (0.6%)	6.5	1.4-30.6	0.010†
Vasa previa ^{a,b}	1 (0.4%)	0 (0%)	-	-	0.415