

Factors Associated With Retained Placenta

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Abstract: Objective: To identify the risk factors associated with retained placenta. **Material and methods:** A retrospective case control study done in Maternity and Children's Hospital, Jeddah for 4 years (1423-1426). All women with singleton delivered pregnancy at gestational age between 26-42 weeks and who had vaginal delivery and had retained placenta were included in the study (case group). All pregnant women before the case were taken as control group. The factors which were looked are: parity, gestational age, induction of dilatation and curettage, spontaneous rupture of membrane, previous history of retained placenta, amount of blood loss, need for blood transfusion and placental weight. **Results:** There were 138 cases. There were 32 cases with previous dilatation and curettage (D/C) P.098, induction of labor in 7 cases P.008, spontaneous rupture of membrane in 80 cases P.000, 28 cases with previous history of cesarean section (C/S) P.020 parity between 0-4 in 104 cases placental weight 200-600gm in 108 cases and 4 cases with history of retained placenta and 52 cases with preterm labor. **Conclusion:** These findings could be use developed a predicative procedure for identify high risk case or retained placenta.

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1. Introduction:

Post-partum hemorrhage is significant cause of maternal mortality in the non industrialized world. Many cases of post-partum hemorrhage are associated with retained placenta, a condition that affects 0.6-3.3% of normal deliveries (1-3).

The changes in the use of oxytocines (4,5), and active management of labor (6,7), may greatly influence the rate of retained placenta.

2. Material and Methods:

A retrospective case control study done at Maternity and Children's Hospital, Jeddah during the period (1423-1426)- All singleton pregnancies at 24-42 weeks of gestation admitted to the hospital and had vaginal delivery complicated by retained placenta were taken As study cases, while patients admitted before each study case were taken as a control.

The data were collected by reviewing patients medical records during the study period. The following possible risk factors were studied for their frequency and association With retained placenta: parity, previous abortion, previous history of dilatation and curettage, history of previous cesarean section, history of previous retained placenta, premature rupture of membrane (PROM), induction of labor, use of syntocinon, amount of blood loss, need for blood transfusion and weight of placenta.

We exclude multiple pregnancy and patient delivered by cesarean section.

The data were entered using SPSS version 10.

3. Result:

The total number of deliveries during the period of the study were 28433. There were 138 cases with retained placenta. This gives an incidence of about 4.8 per 1000 deliveries.

When the obstetrics history of the study cases was compared with that of the controls, it was found that the various factors considered were more significantly prevalent among patients than with controls. For example previous history of cesarean section was reported in 28 cases (66.7%) of the cases, as compared to 14 patients (33.3%) for the control, previous history of dilatation and curettage was reported in 32 (60.4%) of the cases and 21 (39.6%) of the controls, previous history of retained placenta was 4 cases, while nil in the control.

Labor was induced only in 7 cases (100%) while non in the control. Preterm labor (less than 36 weeks) occurred in 52 cases and only 6 of the control.

The parity in both groups was not significantly different. There were 107 cases of parity less than 4, and 26 cases with parity of more than 5 as compared to 104,30 respectively in the control group.

Placental weight was shown to relate inversely to the incidence of retained placenta, in placental weight of 200-600 gm there were 108 cases with retained placenta (62.1%) as compare to 66 (37.9%) in the control group.

Blood loss was also in the range of 100-500 ml, was shown to be of more significance in relation to the incidence of retained placenta. There were 121 patients who lost blood between 100-500 ml with retained placenta. The result shown in table 1. The

mean gestational age at delivery was 34.2 ± 7.0 weeks for the patient and 39.1 ± 2.2 for the control.

After logistic regression analysis, the covariates that related most significantly to retained placenta

were gestational age, premature rupture of membrane, amount of blood loss, and induction of labor, shown in table 2.

Table 1

Risk factors	Case No	%	Control No	%	P value	OR	CI
Previous c/s	28	66.7	14	33.3	0.020	2.2	1.1-4.5
Previous D/s	32	6.4	21	39.6	0.098	1.7	0.91-3.1
IOL	7	2.5	0		.008	2.04	1.8-2.3
PROM	80	78.4	22	21.6	.000	7.2	4.1-12.7
Gestational age	52				0.000		
24-29 weeks	33	97.1	1	2.9			
30-35 weeks	19	79.2	5	20.8			
36-41 weeks	77	38.1	125	61.9			
Parity					0.66		
0-4	107	50.7	104	49.3			
5-9	26	46.4	30	53.6			
>10	5	62.5	3	37.5			
Placental weight							
200-600 gm	108	62.1	66	37.9	0.000	3.6	2.1-6.3
700-1100	26	31.3	57	68.7			
History of retained placenta	4	100	0		0.045	2.01	1.8-2.3
Amount of blood loss							
500-1000 ml	121	47.1	136	52.9	0.000	0.059	0.008-0.46
1100-5000	15	93.8	1	6.3			

Table 2

Risk factor	P value
Gestational age	0.00
Premature rupture of membrane	0.00
Amount of blood loss	0.005
Induction of labor	0.059

3. Discussion:

From this study, several factors have been identified as risk factors lightly associated with retained placenta including: induced labor, small placental weight, parity of 0-4, previous history of cesarean section and dilatation and curettage, previous history of retained placenta and preterm labor.

The significant association of high parity with retained placenta could be explained on the basis of increased abnormalities of placental implantation in the multipara (4,8,9).

With repeated pregnancies, it has been postulated that the uterine muscles get replaced by more fibrous tissue, thereby reducing the contractile power of the uterus which may lead to atony, and therefore retained placenta (10).

Similar to other studies Dilatation and curettage and cesarean section, as well as a history of retained placenta were associated with retained placenta in our study (11,10,12).

The risk of repeat retained placenta is about 2 to 4 times of those without history (11).

It is believed that infiltration of the uterine muscles at the site of the previous injury by the chorionic villi of the implanted ovum may have accounted for this because of damaged endometrium. This may explain why it happens when placenta accrete is retained (4).

Both induced labor and preterm labor were show to be highly associated with retained placenta. These finding are in consonance with the findings in other studies (11,13,14).

It is possible that the factors which predisposed to preterm labor, particularly infarcts and fibrin old degeneration of decidual arteries, as well as acute atherosclerosis which was found to be associated with preterm labor, still birth and intra uterine growth restriction (14), may also cause placental abnormalities, which may result in retained placenta. On the other hand, it has been postulated that the risk may be due to the fact that the normal duration of the third stage of labor may be longer in preterm labor than in term pregnancies (13,15).

The finding of smaller size among patient with retained placenta, compared well with controls. It is possible that the pathological changes associated small Placenta, particularly the replacement of their

chorionic tissue with fibrous or infarcted tissue may account for placental retention (14).

Early detection of potential high risk cases for retained placenta would probably require designing a predictive model for placenta derived from the utilization of data on factors known to be associated with its occurrence.

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