

Incidence of Peripartum Hysterectomy in High Risk Patients at Aziz Bhatti Shaheed Hospital Gujrat

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ABSTRACT

Objective: The aim of this study is to identify the association as well as the incidence of peripartum hysterectomy in high-risk patients.

Methods. This study was conducted at Aziz Bhatti Shaheed Hospital Gujrat, Pakistan from 1 January 2018 to 31 December 2021. Data of 200 cases of peripartum hysterectomy collected that were done at the hospital during the study duration were the part of the study. The participant was randomly selected and their data was stumbled through the medical history of patients obtained by the hospital staff before the treatment and during treatment. Various maternal characteristics as age, education level, number of previous births smoking, and material status were obtained through medical Performa. Main risk factors included abnormal placentation, uterine rupture, hemorrhagic factors, Delivery methods, and multiple gestations were determined. Adjusted odds ratios OR were measured the association of risk factors with peripartum hysterectomy through the stratified analysis. Confidence intervals for the incidence rates were based on the Poisson distribution for a count of 100 or less.

Results: Vaginal delivery had less risk of peripartum hysterectomy with OR (95% CL) = 3.5 (1.4-3.5) in 20 (10%) patients. Twist risk was found in 40 (20.0%) patients who had Vaginal delivery after cesarean with OR (95% CL) = 6.1 (4.1-5.9). Higher risk was measured in patients with cesarean delivery OR (95% CL) = 6.8 (4.8-10.6) and repeated cesarean OR (95% CL) 33 (17.0-78.0). So, we measured the highest incidence of peripartum hysterectomy in repeated cesarean cases. Patients with placental abnormality were strongly associated with peripartum hysterectomy. 71 (35.5%) patients with adherent placenta, OR (95% CL) = 22 (14.0-57.2) had highest association with peripartum hysterectomy. Its incidence rate is 22 fold greater than placenta previa and placenta abruption. As 48 (24.00%) patients were found with Placenta Previa, OR (95% CL) = 6.3 (3.3-10.4) and 20 (10.0%) patients were found with Placental abruption, OR (95% CL) = 4.1 (1.6-4.5).

Conclusion: eventually, we found placental abnormalities are the most critical situation had a strong association with peripartum hysterectomy especially adherent placenta. This shows the highest value of confidence intervals that indicates its higher incidence rate among the other factors.

Keywords: peripartum hysterectomy, adherent placenta, placenta previa

INTRODUCTION

It is a way of surgical strategy performed infrequently in severe cases of delivery. The peripartum hysterectomy showed basic signs of critical and uncontrolled uterine hemorrhage.¹ For most of the time the peripartum hysterectomy is a lifesaving interventional procedure used in a situation called near miss.² It might be found a complete loss in the form of infertility and crucially linked with mother's mortalities and morbidities.³ All over the world the rate at which peripartum hysterectomy is used is varied broadly. Like, in most of the high economical countries on the globe prevalent even <1 out of 1000 complicated deliveries in the case of peripartum hysterectomy⁴ while in other countries like Nigeria⁵ it found 4 deliveries out of 1000 and in Pakistan⁶ 11 out of 1000 deliveries complicated with the same issue. The emergence of the emergency rate of peripartum hysterectomy is being increased over the passage of time flow.⁷ In the time frame from 1998 to 2003 in the USA it was raised to 12%⁸ and from 1995-2007 it was raised 15%.⁹ Additionally, the abnormalities in the placenta indicated the enhanced chances of high-risk peripartum hysterectomy which is often getting suggestions through ultrasound results. Although it is still not clear that up to what extend patients need this method but this is

performed in hospital setups were more often cases have been dealing. Besides these, various impediments like atony of the uterine may result in the risk development from less or more high in several situations leading to peripartum hysterectomy.¹⁰ Furthermore, it is contemplated for the females who wanted a healthy reproductive system because it exerts the most unwanted effects on their fertility. It also demands an expensive health care system.^{11,12} The complicated peripartum hysterectomy required some sort of emergency in transfusion¹³, tenacious bleeding demand examination, and maternal exceeding temperature above 38 degrees¹⁴, some complex surgeries may lead to death¹⁵. However, peripartum hysterectomy was determined through some sort of risk factor consisting of delivery mode¹⁶, and the number of deliveries¹⁷. But due to the small sizes of samples in many types of research measurement of the link was not accurately possible¹⁸. In spite of that, risk factors could be reduced through the optimum plans for delivery and through the consultation of experts especially those who often handle the peripartum hysterectomy, particularly the abnormal placentation¹⁹. However, some literature highlights the improvement of results through the different plans and strategical approach in delivery.²⁰

RESEARCH METHODOLOGY

This study was conducted at Aziz Bhatti Shaheed Hospital Gujrat, Pakistan from 1 January 2018 to 31 December 2021. Data of 200 cases of peripartum hysterectomy collected that was done at the hospital during the study duration were part of the study. The participant was randomly selected and their data was stumbled through the medical history of patients obtained by the hospital staff before the treatment and during treatment. Various maternal characteristics as age, education level, number of previous births smoking, and material status were obtained through medical Performa. To determine the high-risk factors associated with peripartum hysterectomy a list of all factors was prepared in which Gestational age was also considered an important factor. Other factors such as abnormal placentation, uterine rupture, hemorrhagic factors, Delivery methods, and multiple gestations. Exclusion criteria: we excluded the women who had cervical cancer, cervical carcinoma in situ, or ovarian cancer.

Statistical Analysis: The statistical analysis was performed using the statistic 8.1 software. Adjusted odds ratios OR were measured the association of risk factors with peripartum hysterectomy through the stratified analysis. Confidence intervals for the incidence rates were based on the Poisson distribution for a count of 100 or less.²³ P-value lower than 0.05 considered to be significant.

RESULTS

Table:1 consists of the general characteristics of all 200 patients which include Age, education level, number of previous births as well as smoking status. We found 29 (14.5%) patients of age <23 years, 96 (48.00%) patients of age 23-34 years and 75 (37.5%) patients had age range 35-40 years. 40 (20.00%) patients had an education level less than 12 years, 65 (32.5%) had 12 years of education and 95 (47.5%) patients found with educational level >12 years. 46 (23.00%) patients had no previous birth record, 67 (33.5%) patients had one previous birth while 87 (43.5) patients had two or more than previous birth history. Only 25 (12.5%) females out of 200 smoked during pregnancy.

Table 2 represents the data of all risk factors involved in peripartum hysterectomy. The risk of peripartum hysterectomy had variation in every mode of delivery. Vaginal delivery had less risk of peripartum hysterectomy with OR (95% CL) = 3.5 (1.4-3.5) in 20 (10%) patients. Twist risk was found in 40 (20.0%) patients who had Vaginal delivery after cesarean with OR (95% CL) = 6.1 (4.1-5.9). Higher risk was measured in patients with cesarean delivery OR (95% CL) = 6.8 (4.8-10.6) and repeated cesarean OR (95% CL) 33 (17.0-78.0). So, we measured the highest incidence of peripartum hysterectomy in repeated cesarean cases.

Patients with placental abnormality were strongly associated with peripartum hysterectomy. 71 (35.5%) patients with adherent placenta, OR (95% CL) = 22 (14.0-57.2) had highest association with peripartum hysterectomy. Its incidence rate is 22 fold greater than placenta previa and placenta abruption. As 48 (24.00%) patients were found with Placenta Previa, OR (95% CL) = 6.3 (3.3-10.4) and 20 (10.0%) patients were found with Placental abruption, OR (95% CL) = 4.1 (1.6-4.5). So, here

among the three mentioned placenta abnormalities we found adherent placenta was highly associated with peripartum hysterectomy then placenta Previa and placenta abruption.

Other risk factors included uterine rupture, thrombocytopenia, and other hemorrhage-related factors as well as multiple gestations. Among these risk factors, uterine rupture was found with a greater risk of peripartum hysterectomy as 28 (14%) patients of uterine rupture with OR (95% CL), 4.9 (2.0-7.7). Thrombocytopenia was found in 3 (1.5%) patients, its OR (95% CL) = 2.1 (0.3-1.6) shows the least association with peripartum hysterectomy. Other hemorrhage-related factors were measured in 17 (8.5%), its OR (95% CL) = 3.2 (1.3-3.1) shows the lowest association with peripartum hysterectomy Multiple gestations also had no relation with OR (95% CL)= 2.6 (0.4-1.7).

Table: 1 General characteristics of 200 patients

Maternal characteristics	Cases, n =200 (%)
Age (years)	
<23	29 (14.5)
23-34	96 (48.00)
35-40	75 (37.5)
Education level	
<12 years	40 (20.00)
12 years	65 (32.5)
>12 years	95 (47.5)
Number of previous births	
0	46 (23.00)
1	67 (33.5)
+2	87 (43.5)
Smoking Status	
Smoking during pregnancy	25 (12.5)
Not smoking during pregnancy	175 (87.5)

Table: 2 Incidence of peripartum hysterectomy with high risk patients

Risk Factors	Cases n=200	OR (95% confidence interval)	P-value
Mode of delivery			
Vaginal	20 (10.0%)	3.5 (1.4-3.5)	<0.05
Vaginal after cesarean	40 (20.0%)	6.1 (4.1-5.9)	<0.05
Cesarean delivery	52 (26.0%)	6.8 (4.8-10.6)	<0.05
Repeated cesarea	88 (44.0%)	33 (17.0-78.0)	<0.05
Placenta abnormalities			
Placental abruption	20 (10.0%)	4.1 (1.6-4.5)	<0.05
Placenta Previa	48 (24.00%)	6.3 (3.3-10.4)	<0.05
Adherent placenta	71 (35.5%)	22 (14.0-57.2)	<0.05
Other factors			
Uterine rupture	28 (14%)	4.9 (2.0-5.7)	<0.05
thrombocytopenia	3 (1.5%)	2.1 (0.3-1.6)	>0.05
Other hemorrhage related factors	17 (8.5%)	3.2 (1.3-3.1)	<0.05
Multiple gestations	13 (6.5%)	2.6 (0.4-1.7)	>0.05

DISCUSSION

Hemorrhage is the most eminent risk factor for peripartum hysterectomy, particularly because of uterine rupture placenta Previa and retained placenta. The results of this study indicate that adherent placenta had 22 times greater chances of peripartum hysterectomy. Instead of

advancement in medical still, hemorrhage has a greater contribution to maternal morbidity and mortality. In our study, we were highly interested to find those factors that were strongly associated with peripartum hysterectomy. Hence, we found that uterine rupture, placenta Previa, abruption placenta, and adherent placenta were associated with peripartum hysterectomy. A study demonstrated that adherent placenta, uterine rupture, and uterine atony were potentially recognized as high-risk factors associated with peripartum hysterectomy.²¹ another study finding shows that abnormal placentation was significantly linked with previous uterine scars and continuous bleeding complications, and hysterectomy.¹⁷ one more study reported that aggressive blood transfusion therapy and quick decision of was taken in case of life-threatening abnormal complications still appeared after the treatment.²²

The increasing trend of C- section (cesarean section) along with normal birth (vaginal delivery) following the C-section may be a reason for peripartum hysterectomy as mentioned before.²⁴⁻²⁵ The main association behind the high-risk peripartum hysterectomy was periodic C-sections. It is considered so lethally although, the abnormal placentation did not exist the recurrent C-section birth and uterine scar enhanced the chance of peripartum hysterectomy risk.^{26,27} Another eye-opening fact which increased the peripartum hysterectomy risk was rescued vaginal deliveries. Literature reported¹⁵ the enhanced hemorrhage chances due to potentially damaged tissues of the vagina. The rupturing of perineum cells²⁶ and birth passage²⁷, alongside uterine and cervical area damage with the usage of vacuum technology, also formulation of hematoma have been reported in some studies.²⁸

CONCLUSION

Finally, we concluded that with proceeding time need for peripartum hysterectomy performance has been enhancing due to some factors which are also enhanced like cesarean delivery cases and abnormality in the placenta. One basic reason in society is aged mothers and waiting for the childbearing age of females. Consequently met the high-risk peripartum hysterectomy and potentially caused the hemorrhage.

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