Original Article

Evaluation of Cause of Peripartum Hysterectomy: A Retrospective Study in a Tertiary Care Hospital

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Abstract

Introduction: *Peripartum hysterectomy is a surgical venture which is performed at the time, or within 24 hours, of delivery. Emergency peripartum hysterectomy (EPH) is a major surgical venture which is performed during or immediately after or within 24 hours of abdominal and vaginal deliveries. It is also performed during or after caesarean section delivery. This surgical venture which is done when the situation of the patient becomes very critical and there lies life-threatening and huge bleeding after vaginal delivery or cesarean delivery. Despite many advances has been achieved in medical and surgical fields, studies have found out that in developing countries, massive obstetrical hemorrhage causes 8-10% of maternal death directly. So, this study has undertaken to assess the risk factors, indications, causes, outcome and complications of emergency caesarean/peripartum hysterectomy along with demographic factors.*

Objective of the Study: *The objective of this study was to determine the incidence, indications and causes of peripartum hysterectomies.*

Materials and Methods: *This study was a retrospective analysis of the records of women who emergency had been the sufferer of emergency peripartum hysterectomy in a tertiary care hospital. The records of the cases were retrieved from the internal medical records department for the purpose of the study. The socio-demographic characteristics of the patients, indications for the hysterectomy, causes of hysterectomy, mode of delivery, number of cesarean section and baby outcome were recorded in a pre-designed data form. The data were analyzed using simple proportion, rates and tables.*

Result: *50 women underwent peripartum hysterectomy during the study period. The incidence was 9.3/1000 deliveries. Main indications of peripartum hysterectomies were placenta accreta (44.4%), and uterine rupture (11.1%), Central placenta Previa (Percreta) (11.1%). The common maternal complications were febrile morbidity, bladder injury, disseminated intravascular coagulation, and wound infection. There were 7 maternal deaths following emergency peripartum hysterectomy done for atonic PPH whereas no mortality occurred in elective hysterectomy group.*

Conclusion: *Emergency peripartum hysterectomy is considered to be an essential life-saving surgical venture and the rates of this surgical venture is rising gradually in our community in comparison with the developed countries. Effective maternal care, ensuring emergency response, identifying patients at risk stage, enhancement of blood transfusion facilities, improvement of surgical skills, giving training to them who are associated with the treatment procedure and overall increasing the awareness among the women may help to reduce the incidence of peripartum hysterectomy as well as maternal morbidity and mortality.*

Keywords: *Peripartum hysterectomy; Life threatening hemorrhage; Abdominal deliveries; Vaginal deliveries; Placenta accrete.*

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Introduction

Peripartum hysterectomy is a surgical venture which is performed at the time, or within 24 hours, of delivery or any time from delivery to discharge from the same hospitalization.[1] Emergency peripartum hysterectomy (EPH) is a major surgical venture which is performed during or immediately after or within 24 hours of abdominal and vaginal deliveries. It is also performed during or after caesarean section delivery.[2] This surgical venture which is done when the situation of the patient becomes very critical and there lies life-threatening and huge bleeding after vaginal delivery or cesarean delivery.[3] There are some causes behind this surgical venture among them some common indications are such as abnormal placentation (morbidly adherent placenta 55%, and placenta Previa 20%), uterine atony[4], uterine scar rupture. Here the term uterine atony which is also known as Atony of the uterus, is such a serious condition that can occur after childbirth.[4] This situation occurs at the time when the uterus is unable to contract after the delivery of the baby, and when the situation becomes worst, it can even lead to a potentially life-threatening condition which is known as the postpartum hemorrhage.[5] And the term uterine scar rupture means a tear through the thickness of the uterine wall at the site of a prior cesarean incision. It is such a critical phase which can create life threatening condition for both the mother and the baby and in this situation immediate surgical intervention is the only way left for handling the situation and save the life of the mother.[6] Peripartum hysterectomy is the combination of these broader term.[4] Despite many advances has been achieved in medical and surgical fields, studies have found out that in developing countries, massive obstetrical hemorrhage causes 8-10% of maternal death directly. It also leads the cause of maternal morbidity. [7-11] The incidence of peripartum hysterectomy is rising day by day. Over the years the number of indications for peripartum hysterectomy have been increased much which was not frequently done before or performed in a lower number. Although this practice has become quite common in our society but a dilemma occurs when it is required to take the decision of performing an emergency hysterectomy on particularly a young woman especially who has low parity. That is why the emergency peripartum hysterectomy is considered to be the most dramatic operation in modern obstetrics and it is usually performed when all traditional measures become failure to tackle the life-threatening hemorrhage and save the life of the mother. [7-9] So, this study has undertaken to assess the risk factors, indications, causes, outcome and complications of emergency caesarean/peripartum hysterectomy along with demographic factors. This study will help to evaluate the medical setups and government planning to upgrade the mother care and facilities.

Objective

The objective of this study was to determine the incidence, indications, causes risk factor of peripartum hysterectomies and to compare outcomes of peripartum hysterectomies of this study with other similar studies which were conducted recently.

Materials and Methodology

This retrospective cross-sectional study was conducted to assess the incidents, complications, risk factors of the emergency peripartum hysterectomy, in the department of gynae and Obs. In Anam Medical College Hospital, Dhaka, Bangladesh. The study was conducted among 50cases having the incidence and complication of emergency peripartum hysterectomy. To get the target sample in accordance with the study purpose the purposive sampling technique was followed by using a pre-tested semi-structured questionnaire and a check list. Information abstracted included the socio-demographic characteristics of the patients, obstetric history, indications of operation, causes of peripartum hysterectomy, baby outcome, age, residential status, sex of the baby, average weight were recorded in a pre-designed data form. The ethical approval for the study was obtained from the institute ethics committee. The data were analyzed using simple proportion, rates and tables. The data was presented as frequency or mean ± standard deviation

Inclusion criteria:

Patients having age 25 or less than 25 who had experienced suffering from emergency peripartum hysterectomy.

Exclusion criteria:

Patients who refused to give consent after being informed about the purpose of the study.

Patients who were mentally unstable

Patients who had any kind of drug addiction.

Result

In table-1, the distribution of study people according to demographic characteristic such as age, address, obstetric history is shown. There are a total of 50 cases which had been studied under this study. Among these 50cases, the participant of 25 years or less than 25 years were 4 (14.8%). The age group 26-30 had the highest participation of 13 (48.1%). The age group 31-35 had the second highest participation of 6 (22.2%) and the age group of 36 or above 36 had the participation of 4 (14.8%). Considering the age group here the mean age was 30.33 and the standard deviation for the following distribution was 4.33. Among the 50 study people 59.3% were urban dwellers and 40.7% were from rural area.

Assessing the para obstetric history, it was found that among the 50cases, 4 cases (14.8%) had the history of having 1 delivery before. 11 cases (40.7%) had the history of having 2 deliveries before, 10 cases (37.0%) had the history of having 3 deliveries before and 2 cases (7.4%) had the history of having 4 deliveries before. Now, it is required to assess the G obstetric history. Here, 4 (14.8%) cases had the gravity of 2nd time.12 (44.4%) had the gravity of 3rd time pregnancy which means 44.4% of the cases wanted to have their 3rd children and this is the highest percentage.6 (22.2%) cases had the gravity of 4th time pregnancy which is the second highest percentage. 2 (7.4%) cases had the gravity of 5th time pregnancy and 3 (11.1%) of them had the gravity of 6th time pregnancy. Assessing the obstetric history of 'para' and 'G' the mean age of the last child was found to be 5.91 and the standard deviation was found to be 3.28 and vice versa

Table -2: Here the table-2 shows the distribution of the study people according to the clinical parameter. There are some categories of indication of operation. Among the 50cases 4 (14.8%) had primary PPH, 1(3.7%) had secondary PPH, 12(44.4%) had central placenta previa (accrete), 8(29.6%) had Ruptured uterus, 3(11.1%) had Blood coagulopathy, 1(3.7%) had Traumatic, 1(3.7) had Central placenta Previa (Percreta), 3(11.1%) had Abruption placenta, 1(3.7%) had Central placenta Previa & Vasa Previa & Myometrial invasion, 1(3.7%) had Central placenta Previa, 1(3.7%) had Vasa Previa, 1(3.7%). Under the causes of peripartum hysterectomy, 12(44.4%) had the history of 1st C/S and 9(33.3%) had the history of 2nd C/S. 12(44.4%) had Central placenta Previa (Accreta), 1(3.7%) had Central placenta Previa (Percreta), 5(18.5%) had Multipara, 9(33.3%) had Primary PPH (Atonicity of the uterus), 1(3.7%) had Obstructed labour, 2(7.4%) had MR for 1 time and 1(3.7%) had MR for 2 times, 8(29.6%) had Ruptured uterus, 5(18.5%) had Abruption placenta, 1(3.7%) had Low lying placenta, 1(3.7%) had Secondary PPH, 1(3.7%) had Blood coagulopathy. The mean gestational age is 35.85 and the standard deviation for the following distribution is 2.88

Table-3: This table represents the baby outcome. Among the 50cases 20(74.1%) babies were born alive and 7(25.9%) were dead. 14(51.9%) were boy and 13(48.1%) were girl. The average weight was 2.65 and the standard deviation for the weight was 0.67

Table -1: Distribution of Study People According to Demographic Characteristics (N=50)

Characteristics			**N**	**%**
Age	≤25		7	14
	26-30		24	48
	31-35		11	22
	≥36		8	16
	Mean±SD		30.33± 4.33	
	Range		24-39	
Adress	Urban		30	60
	Rural		20	40
Obstetric history	Para	1	7	14
		2	20	40
		3	19	38
		4	4	8
	G	2nd	7	14
		3rd	22	44
		4th	11	22
		5th	4	8
		6th	6	12
	Mean age of the last child		5.91± 3.28	

Table-2: Distribution of Study People According to Clinical Parameter (N=50)

Characteristics		N	%
Indication of operation	Primary PPH	7	14
	Secondary PPH	2	4
	Central placenta Previa (Accreta)	22	44
	Ruptured uterus	15	30
	Blood coagulopathy	6	12
	Traumatic	2	4
	Central placenta Previa (Percreta)	2	4
	Abruption placenta	6	12
	Central placenta Previa & Vasa Previa & Myometrial invasion	2	4
	Central placenta Previa	2	4
	Vasa Previa	2	4
	Fallopian LUCS	2	4

Characteristics			N	%
Cause of Peripartum Hysterectomy	History of C/S	1	22	44
		2	17	34
	Central placenta Previa (Accreta)		22	44
	Central placenta Previa (Percreta)		2	4
	Multipara		9	18
	Primary PPH (Atonicity of the uterus)		17	34
	Obstructed labour		2	4
	MR	1	4	8
		2	2	4
	Ruptured uterus		15	30
	Abruption placenta		9	18
	Low lying placenta		2	4
	Secondary PPH		2	4
	Blood coagulopathy		2	4
Gestational age (week)	Mean±SD		35.85±2.88	

Table -3: Baby outcome (N=50)

Baby outcome		N	%
Baby outcome	Alive	37	74
	Dead	13	26
Sex	Male	26	52
	Female	24	48
Weight	Mean±SD	2.65±0.67	

Discussion

Bangladesh is a developing country with a weak health sector. Lack of maternal health knowledge, lack of proper treatment, lack of treatment management in emergency condition leads to high maternal mortality and morbidity in Bangladesh. Peripartum hysterectomy is a major surgical venture in obstetrics which is not commonly acceptable by the mother specially a young-women with obstetrician. However, sometimes the obstetrician is performed as a life saving measure when there remains no way left to tackle the situation.

This study was conducted in Anam Medical College hospital which is a specialized obst and gynae hospital. When the study was conducted there were 50 cases of peripartum hysterectomy over the 18 months study period and there were a total of 2912 delivery cases. In this perspective the overall incidence was 9.3 per 1000 deliveries. This rate was found higher than the previously reported incidence by other institutions of other countries.[10] With the time, the incidence of peripartum hysterectomy has increased alarmingly also the indications have changed as well. Rouf S et al carried out a similar study in Dhaka Medical College Hospital, in 1999 on peripartum hysterectomy and the incidence was found 6.63/1000 deliveries in comparison with this analysis the present analysis shows higher incidence of Emergency hysterectomies.[11] Besides, emergency peripartum hysterectomy were performed in some African and Asian countries were more in comparison with the United Kingdom and United States.[12,13] Availability of advanced obstetrical treatment, awareness about maternal care and effectiveness of family planning activities of a given community14 makes considerable difference in its incidence in different countries.[12,13]

In this study, 14.8% had the history of having primary PPH, 3.7% had secondary PPH. 44.4% had central placenta previa (accrete), 29.6% had Rupture uterus, 11.1% had Blood coagulopathy. In a similar study of this institute was held recently, where the main indications were placenta accrete (60%), atonic PPH (27.6%), and rupture uterus (7.5%). The incidence of placenta accrete as an indication for peripartum hysterectomy has significantly reduced from 60% to 44.4% and Rupture uterus had increased from 7.5% to 29.6% in this institution. Besides, Traumatic (3.7%), Central placenta Previa

(Percreta) (3.7%), Abruption placenta (11.1%), Central placenta Previa (3.7%), Vasa Previa (3.7%), Fallopian LUCS (3.7%). 44.4% had the history of 1st C/S and 33.3% had the history of 2nd C/S. in this study, 7 (25.9%) babies were dead. Although the incidence of atonic PPH (placenta accrete) as an indication of peripartum hysterectomy has reduced, but the Rupture uterus had increased which may cause more death in delivery.

Most of the labours in our country are Bangladesh is one of the developing countries in the world. with a maternal mortality ratio of 245/100,000 live births.[13] One of the causes of maternal mortality ruptured uterus. Rupture uterus and obstructed labour (indirectly causes rupture in neglected cases) constituted about 19% of maternal death1.[14]

Limitations Of The Study

As this study was a retrospective study there were some limitations also. Low budget, short study period, missing few of the records, proper evaluation of socio-demographic picture was difficult because of record keeping system in this institute which was not standard at all.

Conclusion

Emergency peripartum hysterectomy is considered to be an essential life-saving surgical venture and the rates of this surgical venture is rising gradually in our community in comparison with the developed countries. But it is not easy to take the decision of performing emergency peripartum hysterectomy specially for a young-women because of obstetrician's paramount wish is to preserve the uterus for future childbearing. In this study, the risk factors for emergency peripartum hysterectomy were high parity, illiteracy and unawareness about maternal care, inadequate maternity services, injudicious use of oxytocin, management of third stage of labor, lack of emergency response, abnormal placentation and uterine atony. Effective maternal care, ensuring emergency response, identifying patients at risk stage, enhancement of blood transfusion facilities, improvement of surgical skills, giving training to them who are associated with the treatment procedure and overall increasing the awareness among the women may help to reduce the incidence of peripartum hysterectomy as well as maternal morbidity and mortality.

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