

Obstetric Hysterectomy and Maternal Survival

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Aims: This study was done to analyze the cases of obstetric hysterectomy and maternal complications and survival after that.

Methods: A retrospective study was carried out from the review of records of the near miss, maternal mortality, cesarean audit and operation theater record of the Department of Obstetrics and Gynaecology, Tribhuvan University Teaching Hospital (TUTH), Kathmandu from 2057-2071 BS.

Results: Fourteen maternal survival resulted following total of 19 obstetric hysterectomy, subtotal hysterectomy being the procedure of choice in 11 cases, emergency peripartum hysterectomy (EPH) being performed in abundance (18/19) in comparison to an elective peripartum hysterectomy, which was undertaken in a single case of placenta percreta, and inclusive of latter were four cases of morbid placental adhesion, a placenta increta and two placenta accreta. Eight out of 19 cases had vaginal delivery and rest had cesarean section. Among seven cases of cesarean hysterectomy 3 were done for placenta previa with accreta one case each done for abruptio placentae and placenta accreta and two cases were done for extra placental causes. Among four cases of emergency peripartum hysterectomy (EPH), which were relaparotomy followed by hysterectomy, three cases were done for complication of cesarean section and one done for uterine atonicity. Four cases of spontaneous vaginal deliveries needed peripartum hysterectomy two of them were complicated by morbid placental adhesion placenta increta (1), placental percreta (1), two cases were vaginal birth after cesarean (VBAC). Seven cases of uterine rupture had undergone peripartum hysterectomy.

Conclusions: Obstetric hysterectomy is a lifesaving surgical procedure for maternal survival whenever necessary and mandates a quick decision making process, however in consideration of younger age and low parity or nulliparity, the best obstetric governance and services must foresee not to let mothers meet such situation necessitating organ removal and to enjoy potential reproductive life cycle.

Keywords: cesarean hysterectomy; emergency peripartum hysterectomy; obstetric hysterectomy.

INTRODUCTION

Obstetrical hysterectomy includes cesarean hysterectomy, the one that is undertaken at or during cesarean section. Peripartum hysterectomy is defined as the removal of the uterus at the time or within 24 hours of delivery (vaginal or cesarean) or any time from delivery to discharge during the same hospitalization.^{1,2} The operation is either emergent or planned. Emergent is undertaken whenever there is severe uterine hemorrhage that cannot be controlled by conservative measures and they are

abnormal placentation, uterine atony, uterine rupture, leiomyoma and lastly, laceration of uterine vessels. It is undertaken as elective procedure whenever there is antepartum diagnosis of placenta accreta, severe postpartum infection unresponsive to medical therapy or rarely cervical carcinomas stage IA2 and IB1. In the recent years, most of the obstetricians would prefer to save the uterus embracing various ways to combat postpartum hemorrhage through technological advancements unless there is concern for saving the mother's life. In this regard, this study was done to share experiences of the peripartum hysterectomy and to disseminate how important it is for mothers to live, even without uterus.

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METHODS

This retrospective descriptive study was conducted at Tribhuvan University Teaching Hospital in Kathmandu, having an average annual delivery of 3,500. Records of obstetric hysterectomy, cesarean or peripartum were collected from maternal mortality forms from 2057 BS onwards and also near miss review forms from 2062 BS onwards. Labor room audit, cesarean audit and operation theater audit were also checked to fill in the missed cases if present. All the cases of the obstetric hysterectomy thus retrieved

from departmental audit of maternal mortality, near misses, labor room, cesarean and general operation were grouped into cesarean hysterectomy or peripartum hysterectomy and analyzed for the indications and maternal outcome after the procedure.

RESULTS

There were 14 maternal survivals amongst 19 cases of obstetric hysterectomy performed, 11 of them being subtotal hysterectomy and all but one case of EPH, over the study period of 15 years 2057-2071 BS (April 2000 - Nov 2014).

Table 1. Obstetric hysterectomy (n=19).						
Type	Causes/ indications		Details	MM	NM	TOTAL
Caesarean Hysterectomy	Placental (5)	LUS	Placenta	[1]	1	2
			Previa			
	UUS		Placenta previa		1	1
			Accreta			
			Abruptio placenta	[1]		1
	Placenta accreta			1	1	
	Extraplacental (2)					2
	Caeseraen Section (4)	Complications		[2]	1+1*	4
Peripartum Hysterectomy	Vaginal delivery (8)	Spontaneous		[1]	1*	2
		IOL/UT RUP			2*	2
		VBAC			2*	2
		Retained placenta			1+1*	2

NB: The number within the [] in bold shows maternal mortality and the number inside () shows severe acute maternal morbidity. The star* shows the uterine rupture. MM- maternal mortality, NM- near miss, UUS- upper uterine segment, LUS- lower uterine segment, UT RUP- uterine rupture, IOL – induction of labor

Cesarean hysterectomy (CH) was done in seven cases out of the 19 and all were undertaken for hemorrhagic complications arising from placenta previa (2), placental abruption (1), placenta accreta (1), placenta previa accreta (1) and two due to extra placental causes. One was due to atonic primary postpartum hemorrhage refractory to the medical treatment and the other was failure of B- Lynch suture.

Remaining twelve cases were peripartum hysterectomy, all except one was done as emergency basis, eight-followed vaginal delivery and four-followed cesarean. One of four cases that followed

CS resulted from atonic primary PPH. Three cases were hemorrhagic complications during cesarean section, such as bleeding from uterine incision angle (1), huge bilateral hematoma (1) and a missed uterine rupture at CS for second twin with transverse lie and obstructed labor, first twin being born at home. As mentioned above, eight cases of peripartum hysterectomy were done for complication noted at or after planned vaginal deliveries, two each representing spontaneous vaginal delivery, induced vaginal delivery, vaginal birth after cesarean (VBAC) and above all had retained placenta.

Two cases of EPH were performed after complication of spontaneous vaginal delivery. Indication was torrential bleeding from multiple vaginal tear in a young primigravida who ultimately died despite of the surgical step. In another case the indication was traumatic PPH due to cervical tear extending upto the lateral border of the uterus causing huge broad ligament hematoma.

Two cases had induction of labour one with tab misoprostol 25 mcg 2 doses 4-6 hours apart and another with intracervical dinoprostone gel (cerviprime) 0.5 mg, two doses six hours apart. Induction in the first case was done for severe preeclampsia, who experienced excruciating pain and subsequently collapsed after vomiting on laparotomy, 3.5 L of hemoperitoneum and uterine rupture was observed (Figure 1).



Figure 1. Rupture of unscarred uterus at induction of labour with misoprostol.

The other case of postdated pregnancy at 41+2 weeks induced by dinoprostone gel suffered hypotensive collapse just after delivery. On laparotomy, uterine rupture was found. Among two cases of vaginal birth after cesarean (VBAC) and EPH, noteworthy of mention is the rupture of previous cesarean inverted T scar (Figure 2).

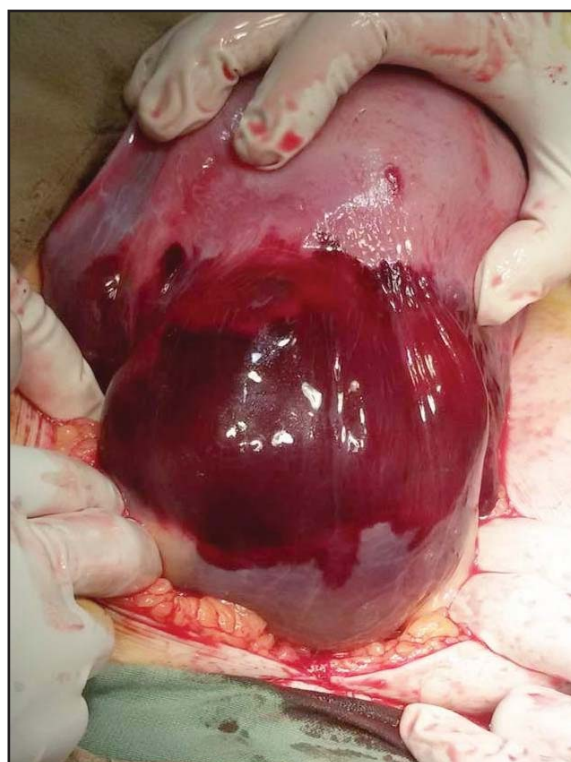


Figure 2. Scar rupture at VBAC.

One case survived following two laparotomy and vaginal packing under general anesthesia, had DC shock given twice at two occasions and transfusion of 43 units of whole blood and over 20 units of fresh frozen plasma and platelet rich plasma. Incomplete expulsion of placenta, or rather partial retention of placenta occurred in two cases. In the first, postpartum collapse occurred after spontaneous preterm fresh stillbirth, laparotomy revealed 3.5 L hemoperitoneum, bleeding vessel of placenta percreta situated in the uterine cornua. Last of all that needs mention, is a referred case from Khotang, an 42 years para 7 who was admitted with the diagnosis of placenta increta following preterm vaginal delivery, she was managed by elective peripartum subtotal hysterectomy (Figure 3-4).

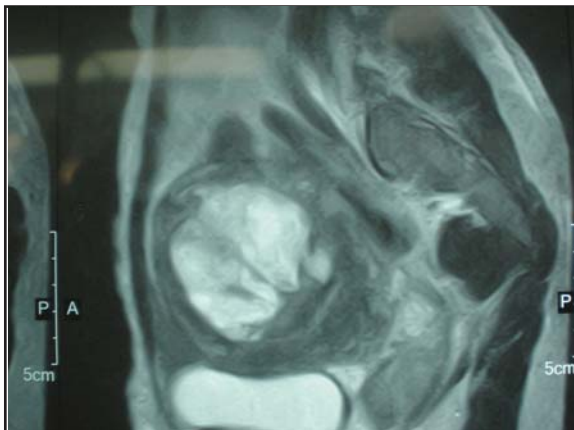


Figure 3. MRI showing placenta after preterm vaginal birth in a P7, 42 years of age.

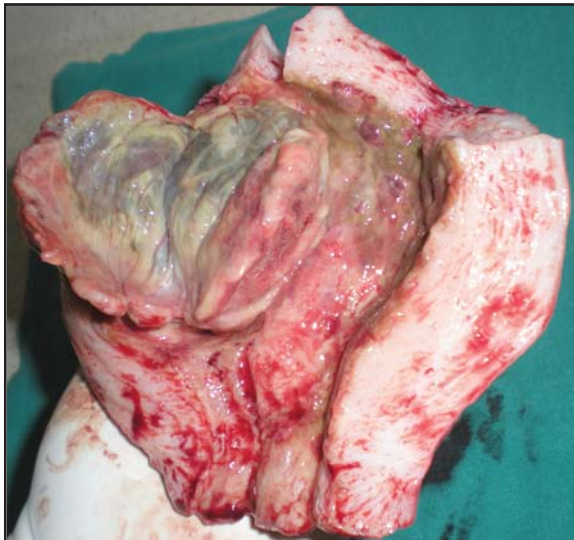


Figure 4. Showing placenta increta in post-hysterectomy of the same case described in figure 3.

To summarize, there were four cases of morbid adhesion of placenta, two cases of placenta accreta, one in a central placenta previa with accreta, placenta increta and placenta percreta, latter, which perforated the uterus with resultant hemoperitoneum described just above. Including this case of placenta percreta, total seven cases of uterine rupture were responsible for the peripartum hysterectomy. There were two cases of twin, both of them had first vaginal delivery by vertex at home and hospital and second twin CS for transverse lie.

Blood loss or hemoperitoneum ranging from 1 to 4 litres was noted in 10 cases. Maximum number of blood transfusion (only red cell) was 43 units, 11unit

for abruption followed by 8 unit (2), 6 unit (1) and 5 unit (3). Hb level was seen as low as 2 gm%.

Median age (18-42) was 27 years, regarding gravidity of the cases 4 cases were primigravida and 15 were multigravida, among whom two were grand multigravida.

DISCUSSION

This study showed a small number of obstetric hysterectomies, not even one per annum which may be because of the technical advancement and choices for medical and surgical management of postpartum hemorrhage, also because of the reservation of surgeons to hysterectomy in consideration to the younger age and low parity. While on the other side, there are mothers who died, either because hysterectomy was avoided or decided too late without much maternal benefit, severe acute maternal morbidity worsening to mortality.

This study indicated obstetric hysterectomy or emergency peripartum hysterectomy, which in true sense followed three cases of vaginal deliveries. One after spontaneous vaginal delivery and ragged vaginal tear, second VBAC and scar rupture and thirdly retained placenta which was indeed placenta percreta perforating uterus.

The fourth case, of induced vaginal delivery with uterine rupture and partial extrusion of fetal breech in the abdominal cavity, after all is laparotomy and delivery of partially extruded fetus with hysterectomy. These have been disseminated through large studies from Utah³ and addressed by parallel studies of re-laparotomy after cesarean.⁴

Refocusing on EPH, arising from post vaginal delivery complications, as already mentioned is placenta percreta. Some of the cases have been mentioned, including intra-abdominal collection.^{5,6} In our case, failure to complete placental delivery was a signal for morbidly adherent placenta which was not understood in the first place. Apart from this, postpartum hemorrhage has been a complication of simple vaginal tear met in our case which resulted without instrumentation.^{7,8} The experiences, have taught us that all the cases of induction of labour has to be properly assessed and well monitored so

that uterine rupture and its sequel can be minimized. Uterine rupture has been reported with the usage of both dinoprostone and misoprostol in unscarred uterus.⁹⁻¹¹ Besides this, the rupture of previous cesarean scar to the extent, mandating hysterectomy is an important aspect as well, faced in one of the case detailed above, an issue of concern.¹²

CONCLUSIONS

Obstetric hysterectomy, a life saving measures must be advocated whenever and wherever the situation necessitates, however in view of maternal interest with

regards to low parity and younger age at pregnancy in this part of the world, obstetric services and facilities should be such that the situations mandating EPH does not arise at all.

DISCLOSURE

The authors report no conflicts of interest in this work.

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