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A study on incidence and risk factors for caesarean hysterectomies and post vaginal emergency hysterectomies in teritary care hospital: A prospective study

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Abstract
Aim & Objectives: The main of the present study to investigate the incidence, risk factors for caesarean hysterectomies and post vaginal emergency hysterectomies.
Methodology: It is prospective study, conducted in the Department of Obstetrics and Gynaecology, S.C.B. Medical College, Cuttack during July 2015 to July 2017.
Results: A total of 55 cases of hysterectomy were operated during this period. Out of all cases, 36 cases (65.5%) of hysterectomy were done following caesarean section and 19 cases (34.5%) following vaginal delivery. The incidence noted was more for cases having delivery by caesarean section. Mean age of the cases was 27.1 years with a standard deviation of 5.2 years. Age ranges was from 19 years to 38 years. But the maximum number of cases were below 30 years of age (80% of cases). Majority of the cases were from rural set up (39 cases, 71%). The rest were from urban set up (29%). Around 40% of the cases (20 cases) of hysterectomy were illiterate, while another 35% (19 cases) just had primary school level of education. It was seen that majority of the cases who underwent hysterectomy were referral cases (46 cases, 83.6%). However, important to note, delayed referral cases were the maximum in this group (35 cases, 63.6% of all cases). Multiparity was seen in most of the cases who underwent hysterectomy (42 cases, 76.4%). One third of all the cases had parity two and was the most common parity presenting for hysterectomy (18 cases, 33%). In the present study, the proportion of cases having hysterectomy was more caesarean section (65%) as compared to cases post vaginal delivery. At least 10% of cases who presented with hysterectomy did not have even a single antenatal check-up during their pregnancy. But most being after three ANCs (mode = 3). Uterine manipulation in the form of previous MTP or Surgery history was found to be present in 23 cases (42%), with previous history of CS being the most common among these, followed by MTP. In the present study, Atonic PPH was the most common indication (58%) for hysterectomy in cases of vaginal delivery followed by scar rupture (32%) while scar rupture and uterine rupture both contributed equally (28% each) for a hysterectomy in cases of caesarean section. It was seen that the mean duration of stay in hospitals in case of caesarean hysterectomies was more as compared to the vaginal hysterectomies and this was found to be statistically significant. It was seen that caesarean hysterectomy was associated with less deaths than expected as compared to vaginal hysterectomy. Intrauterine death was seen in 28 cases (42%), with another 10 cases (15%) born alive but needing NICU admission. There was no complication seen only among 28 cases (43%). Duration of hospital stay, induced labour and history of previous caesarean section were found to have significant association with the type of hysterectomy ($p<0.05$).
Conclusion: In conclusion, the risk factors associated with emergency peripartum hysterectomy should be identified antenatally and the high risk group of women should be delivered by skilled birth attendants and following protocols of action, measures that can contribute to reduce the high maternal morbidity and mortality associated to EPH. Also, caesarean delivery should be performed only when exclusively necessary, in appropriate clinical settings and by experienced surgeons when such risk factors are identified.

Keywords: peripartum hysterectomy, caesarean, maternal complications, antenatal check-up, parity

Introduction

Obstetric hysterectomy refers to the surgical removal of a pregnant uterus or a recently pregnant uterus [1]. It was first proposed in 1869 but with no desirable results [2]. However, seven years later (1876), the first caesarean subtotal hysterectomy was carried out successfully, with the result that both the mother and the baby survived [3].

In modern obstetrics, the overall incidence of EPH is 0.05%, but there are considerable differences in incidence in different parts of the world, depending on modern obstetric services, standards and awareness of antenatal care, and the effectiveness of family planning activities of

a given community [4]. The incidence of peripartum hysterectomy in the literature is reported as 0.24, 0.77, 2.3, and 5.09 per 1,000 deliveries by Sakse *et al*. [5], Whiteman *et al*. [6], Bai *et al*. [33] and Zeteroglu *et al*. [8], respectively. In the past, the majority of EOH was performed for postpartum haemorrhage usually caused by uterine atony [9, 10].

Severe postpartum haemorrhage was reported to occur in 6.7/1,000 deliveries worldwide the main causes of the uncontrollable haemorrhage necessitating an EPH have changed since the 1980s. This indication for the procedure is less common in these days due to availability of potent uterotonic agents together with the advent of less invasive surgical alternatives such as uterine tamponade, B Lynch suture, and uterine artery/internal iliac artery ligation [10, 11]. Increase in blood supply to the uterus and alteration in pelvic anatomy during pregnancy predispose to excessive primary haemorrhage and potential injury to the bladder/ureter, respectively [3]. In developing countries, limited availability of blood together with financial constraints constitute additional challenges which increase the operative morbidity and mortality [12-14].

Uterine atony and rupture have been overtaken by abnormal placentation in many studies. This is not only because of improved conservative management of uterine atony and a reduced incidence of uterine rupture due to the extensive use of the lower uterine segment incision in preference to the upper uterine segment incision for caesarean section (CS), but also because of an actual increase in the incidence of the morbidly adherent placenta. Abnormal placentation, which refers to both placenta previa and the morbidly adherent placenta, is thought to be increasing because of the rising rate of CS.

Conservative treatment of postpartum haemorrhage includes uterotonics (Oxytocin, ergotamine), uterine massage, uterine artery embolization, uterine packing, pelvic vessel ligation, B-Lynch suture, multiple square sutures, and recombinant-activated factor VII.

The most severe complication of haemorrhage is maternal death, whose risk is estimated to be approximately 1 in 100,000 deliveries in developed countries and has been increasing. This risk is as high as 1 in 1,000 deliveries in developing countries. Other maternal complications of postpartum haemorrhage include hypovolemic shock, disseminated intravascular coagulopathy, renal failure, hepatic failure, and adult respiratory distress syndrome (ARDS) [15, 16].

The resources required to manage these women therefore extend well beyond the surgical costs. In addition, as medical practice is constantly changing and new discoveries come to the fore, lessons learnt from this study may help in revising the existing clinical protocol for the emergency management of severe obstetric conditions.

Hence, the present study is to investigate the incidence, risk factors for caesarean hysterectomies and post vaginal emergency hysterectomies. Maternal outcomes of these cases, complications and associated maternal mortality

Materials and Methods

Source of data

This is study is to be conducted in the Department of Obstetrics and Gynaecology, S.C.B. Medical College, Cuttack.

Duration of study: July 2015 to July 2017.

Design: Prospective study

Inclusion criteria

- Pregnant woman irrespective of period of gestation admitted as obstetric emergencies such as uterine trauma, post partum haemorrhage, rupture uterus, placenta previa.
- Cases with singleton/multiple pregnancies.
- Cases in obstetric emergencies in third stage of labour like PPH, retained placenta, morbidly adherent placenta, prolonged labour.
- Cases undergoing caesarean section and vaginal deliveries.

Exclusion criteria

- Cases of elective peripartum hysterectomies such as in case of large fibroid with pregnancy, carcinoma in situ, cervical dysplasia, elective sterilization.
- Septic abortion

Procedure of study

Basic demographic data, admission and referral details, present complications and significant history will be taken into account. The status of the patient, vitals, presence or absence of shock, need for vasopressors, blood transfusion and hysterectomy indications were recorded.

General; systemic and obstetric examinations, investigations shall be noted. Failure of surgical techniques and associated complications were noted.

Maternal characteristics such as age, gravidity and parity, gestational age, previous birth weights and previous uterine procedures were examined. The type of delivery, peri-operative complications need for blood transfusion number of post-operative hospitalization days, fetal morbidity and mortality were studied.

All deliveries during this period were enumerated from hospital based delivery registry that maintains demographic and reproductive medical history information on all deliveries performed at the three named hospitals. All patients that had elective peripartum hysterectomy for gynaecologic indications were not included in the study.

Results of the procedure shall provide incidence, most common indication, risk factors, surgical complications, ICU Care, maternal outcomes and associated maternal mortality with caesarean hysterectomies and post vaginal delivery emergency peripartum hysterectomies.

Statistical analysis

Analysis: Data was entered on Microsoft excel sheet v 2016, cleaned for errors and imported to SPSS v 20.0. Data analysis was done using SPSS. Continuous variables were described using Mean and Standard deviation, while categorical variables were described using proportions/ percentages. Comparison of means was done using Mann-Whitney U test between two groups considering small sample size, and using Chi-square test or Fischer's exact test as applicable.

Results

General information

Study sample details

The present hospital based study was conducted over a period of more than two years at SCB Medical College and Hospital (total 25 months) comprising of 20,584 cases delivered with proportion of vaginal delivery and caesarean section being almost similar (10,075 (48.9%) vs 10,521 (51.1%)). These cases constituted the at-risk population for hysterectomy in the current study.

Incidence of hysterectomy

A total of 55 cases of hysterectomy were operated during this period. Out of all cases, 36 cases (65.5%) of hysterectomy were done following caesarean section and 19 cases (34.5%) following vaginal delivery. The incidence of post-caesarean hysterectomy was found to be 1.6 per 1000 cases of caesarean section per year and that following vaginal delivery was found to be 0.9 per 1000 cases of vaginal delivery per year. The incidence noted was more for cases having delivery by caesarean section.

Age distribution of the cases

Mean age of the cases was 27.1 years with a standard deviation of 5.2 years. Age ranges was from 19 years to 38 years. But the maximum number of cases were below 30 years of age (80% of cases) (Fig. 2)

Locality of the cases

Majority of the cases were from rural set up (39 cases, 71%). The rest were from urban set up (29%). (Fig 3).

Literacy status of the cases

Around 40% of the cases (20 cases) of hysterectomy were illiterate, while another 35% (19 cases) just had primary school level of education. This means that only a small portion of the cases who underwent hysterectomy had education levels up to matriculation or more (Fig 4).

Fig 2: Age distribution of the cases having hysterectomy (n=55)

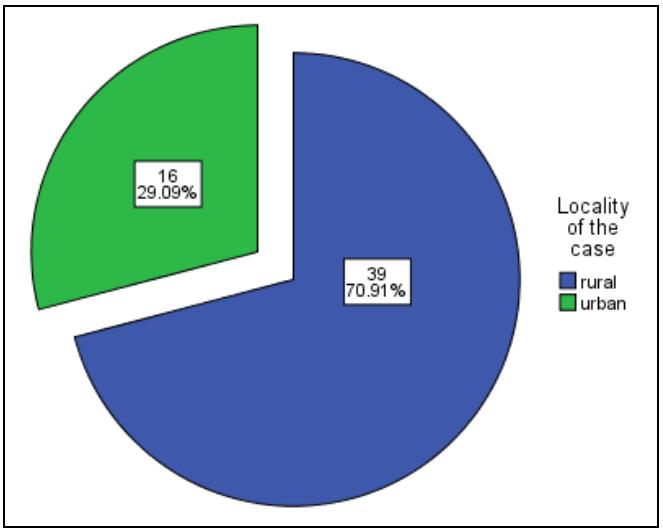

Fig 3: Distribution of cases as per locality (n=55)

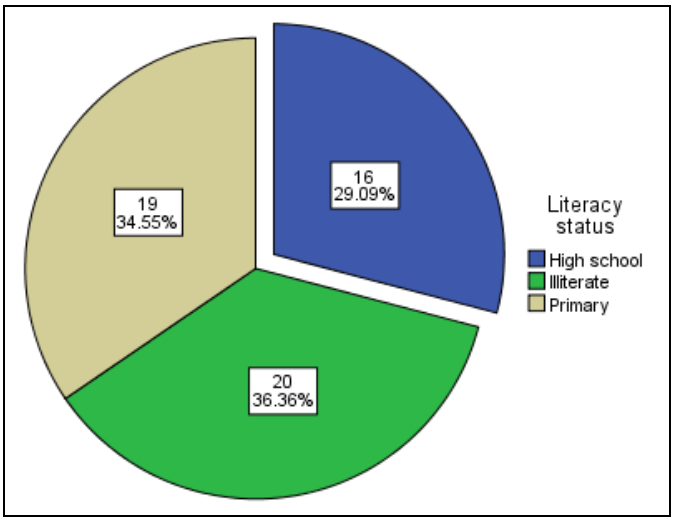

Fig 4: Literacy status among the cases of hysterectomy (n=55)

Referral cases

It was seen that majority of the cases who underwent hysterectomy were referral cases (46 cases, 83.6%). However, important to note, delayed referral cases were the maximum in this group (35 cases, 63.6% of all cases) (Fig. 5).

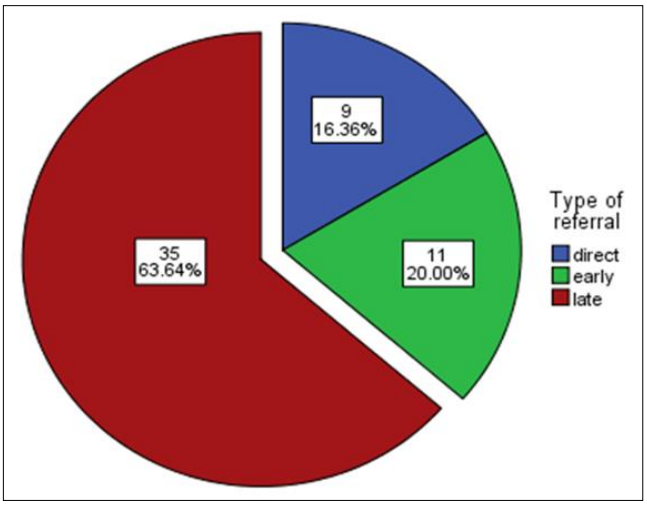

Fig 5: Referral cases among those who underwent hysterectomy (n=55)

Obstetric history

Parity

Multiparity was seen in most of the cases who underwent hysterectomy (42 cases, 76.4%). One third of all the cases had parity two and was the most common parity presenting for hysterectomy (18 cases, 33%) (Fig. 6).

Mode of delivery

It was seen that though all the deliveries occurring at the tertiary care centre were having almost equal proportions of vaginal delivery and caesarean section, yet the proportion of cases having hysterectomy was more caesarean section (65%) as compared to cases post vaginal delivery (fig 7).

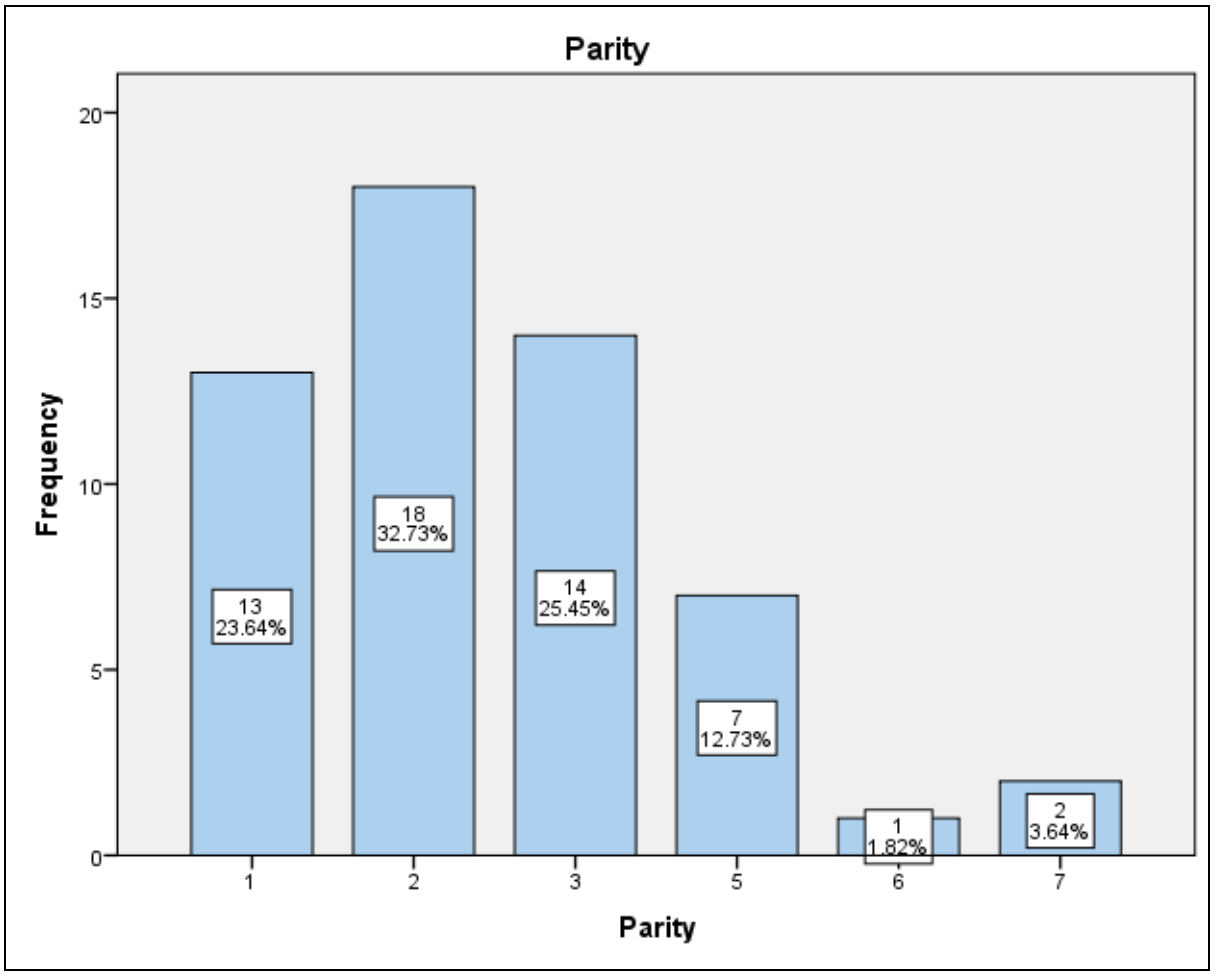

Fig 6: Parity among the cases who underwent hysterectomy (n=55)

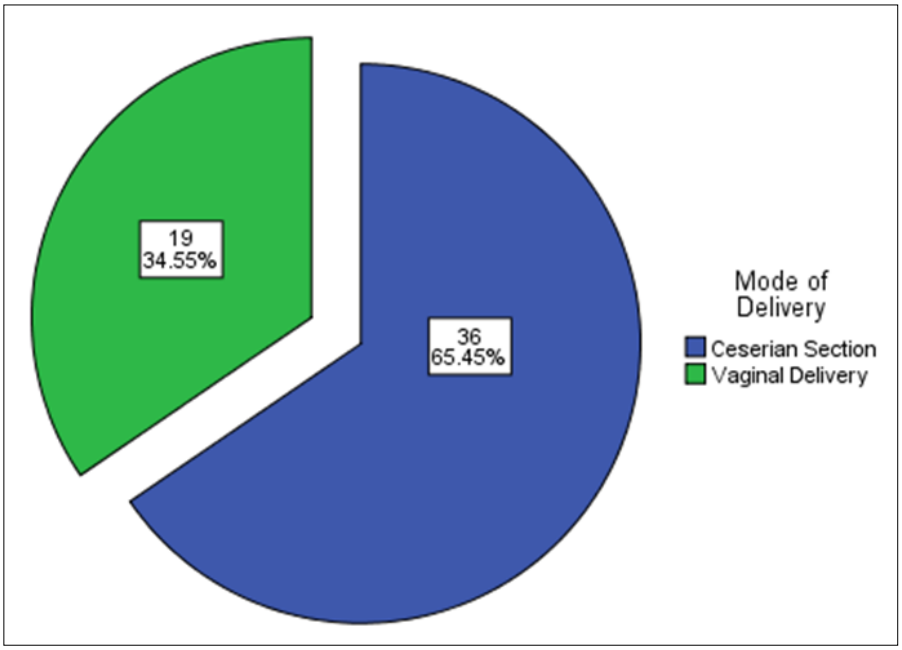

Fig 7: Mode of delivery among the cases presenting for hysterectomy Number of antenatal check up

At least 10% of cases who presented with hysterectomy did not have even a single antenatal check-up during their pregnancy. But most being after three ANCs (mode = 3) (Fig 8).

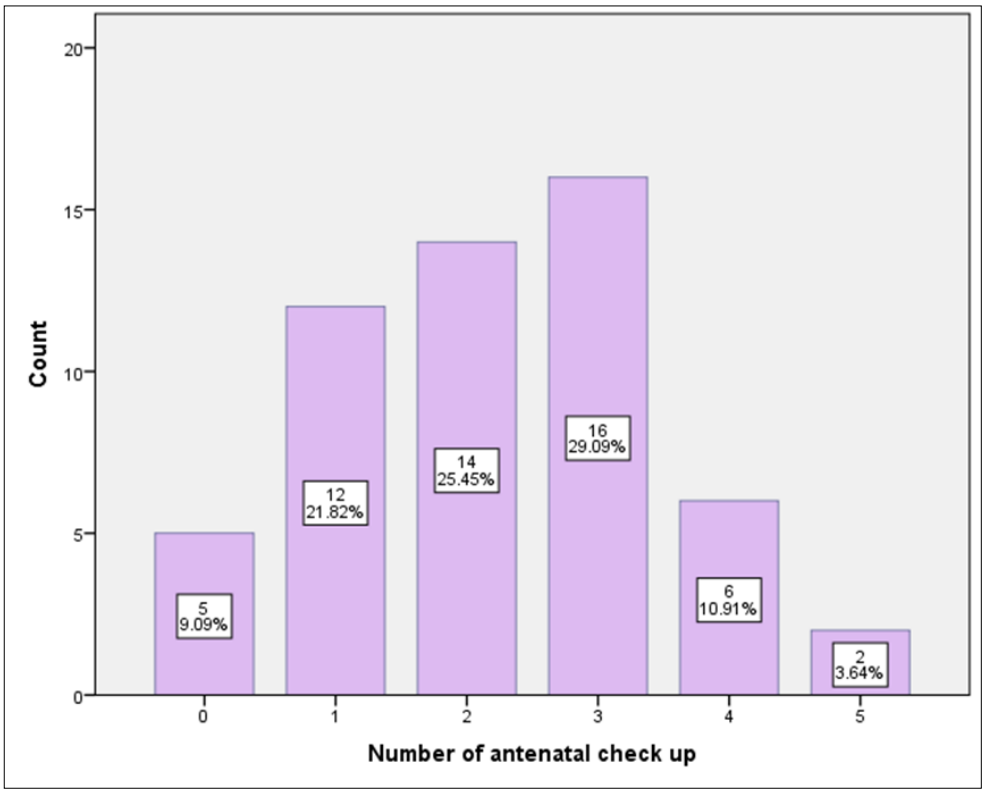

Fig 8: Number of antenatal check-ups for cases presenting with hysterectomy (n=55)

History of uterine manipulation or surgery

Uterine manipulation in the form of previous MTP or Surgery history was found to be present in 23 cases (42%), with previous history of CS being the most common among these, followed by MTP (Fig. 9). (Fig 10).

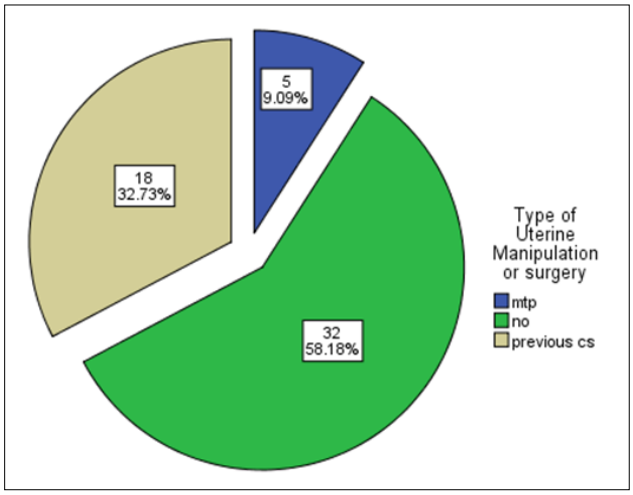

Fig 9: Uterine manipulation surgery in the cases presenting with hysterectomy (n=55)

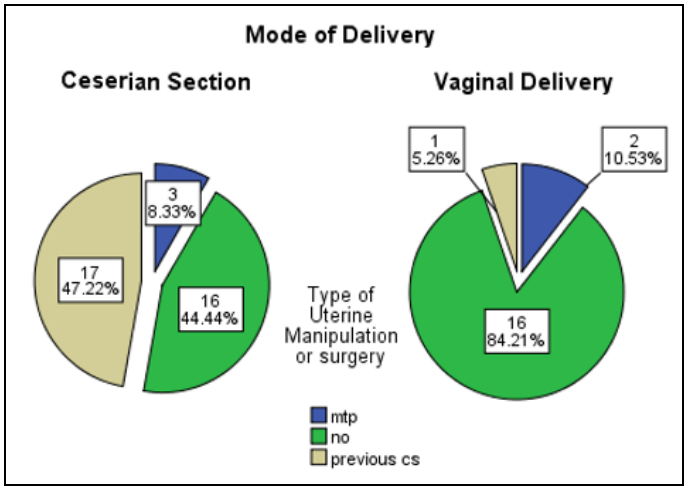

Fig 10: History of uterine manipulation among cases presenting with hysterectomy grouped by mode of delivery (n=36 for CS, 19 for VD)

Clinical profile of hysterectomy cases

Indications for hysterectomy

Table 1: Mode of delivery of the cases (n=55)

	Caesarean Section		Vaginal Delivery		Total	
	Count	Column %	Count	Column %	Count	Column %
Abruptio	3	8%	1	5%	4	7%
Atonic PPH	5	14%	11	58%	16	29%
Blunt trauma	1	3%	0	0%	1	2%
Placenta Percreta	4	11%	0	0%	4	7%
Placenta Praevia	3	8%	1	5%	4	7%
Scar rupture	10	28%	0	0%	10	18%
Uterine rupture	10	28%	6	32%	16	29%
Total	36	100%	19	100%	55	100%

Atonic PPH was the most common indication (58%) for hysterectomy in cases of vaginal delivery followed by scar rupture (32%) while scar rupture and uterine rupture both contributed equally (28% each) for a hysterectomy in cases of caesarean section.

Complications after hysterectomy (Including injury)

ICU admission was seen more commonly among cases of hysterectomy following vaginal delivery (26%vs 3%) and this was also found to be significantly different when compared using Fischer's exact test (p=0.015). Other complications like fever, DIC and wound sepsis were seen equally in both the groups, and there was no significant difference. However, it was seen that fever followed by wound sepsis was the most common complication among cases of caesarean section and condition needing ICU admission is the most common complication for cases of hysterectomy following vaginal delivery (Table 2).

Table 2: Complications after hysterectomy as per mode of delivery (n=55)

		Caesarean Section		Vaginal Delivery		Total	
		Count	Column %	Count	Column %	Count	Column %
Fever	No	26	72%	16	84%	42	76%
	Yes	10	28%	3	16%	13	24%
DIC	No	33	92%	16	84%	49	89%
	Yes	3	8%	3	16%	6	11%
Wound sepsis	No	31	86%	18	95%	49	89%
	Yes	5	14%	1	5%	6	11%
ICU Admission	No	35	97%	14	74%	49	89%
	Yes	1	3%	5	26%	6	11%
	Total	36	100%	19	100%	55	100%

Use of blood products

Blood products like packed red cells, fresh frozen plasma and platelets were used in management of cases wherever required post-hysterectomy. Platelet transfusions were seen only in cases of hysterectomy following caesarean section (Table 3). Rest of the other blood products were used almost equally in both the types of hysterectomy.

Table 3: Blood products used in cases with hysterectomy as per mode of delivery (n=55)

	Packed red cells		Fresh frozen Plasma		Platelet transfusion	
	Mean	SD	Mean	SD	Mean	SD
Ceserian Section	2.58	1.08	1.69	1.83	.28	1.19
Vaginal Delivery	2.53	1.17	1.58	2.06	.00	.00

Duration of stay in the hospital

It was seen that the mean duration of stay in hospitals in case of caesarean hysterectomies was more as compared to the vaginal hysterectomies and this was found to be statistically significant (p=0.038, Mann Whitney U test) (Table 4).

Table 4: Duration of stay in hospital (In days)

		Duration of stay in hospital (in days)	
		Mean	SD
Mode of Delivery	Caesarean Section	9.17	4.33
	Vaginal Delivery	6.26	4.21

Prognosis of hysterectomy cases

Maternal outcome

Deaths occurred among the cases due to various causes, most prominent among them being Sepsis (7 cases, 41%) with one case associated with DIC simultaneously.

Table 5: Death after hysterectomy among the cases (n=55)

	Mode of Delivery		Total
	Caesarean Section	Vaginal Delivery	
Alive	29 (80.6%)	9 (47.4%)	38 (69.1%)
Dead	7 (19.4%)	10 (52.6%)	17 (30.9%)
Total	36 (100%)	19 (100%)	55 (100%)

It was seen that caesarean hysterectomy was associated with less deaths than expected as compared to vaginal hysterectomy, having a chi-square value of 6.414 (p=0.011). Thus, prognosis might seem grave for cases of vaginal hysterectomy as compared to caesarean hysterectomy.

Fetal outcome

Intrauterine death was seen in 28 cases (42%), with another 10 cases (15%) born alive but needing NICU admission. There was no complication seen only among 28 cases (43%).

The number of fetal deaths occurring among cases with caesarean hysterectomy was found to be 21 out of 36 cases (58% of all caesarean cases), while that with vaginal hysterectomy was found to be 7 out of 19 cases (37% of all vaginal cases). This was however not found to be statistically significant (p=0.130, Chi-square test) which means that there is no difference in fetal deaths among those with caesarean vs vaginal hysterectomy.

Table 6: Association of fetal deaths with the type of hysterectomy (n=55)

	Mode of Delivery		Total
	Caesarean Section	Vaginal Delivery	
No fetal death	15 (41.7%)	12 (63.2%)	27 (49.1%)
Fetal death present	21 (58.3%)	7 (36.8%)	28 (50.9%)
Total cases	36 (100.0%)	19 (100.0%)	55 (100.0%)

Table 7: Association of fetal NICU admission with the type of hysterectomy (n=55)

	Mode of Delivery		Total
	Caesarean Section	Vaginal Delivery	
No NICU admission	28 (77.8%)	17 (89.5%)	45 (81.8%)
NICU admission	8 (22.2%)	2 (10.5%)	10 (18.2%)
Total cases	36 (100.0%)	19 (100.0%)	55 (100.0%)

Similarly, the outcome of fetus in terms of NICU admission was not associated with mode of delivery of the cases (p=0.465, Fischer's exact test).

Risk factors among hysterectomy cases

All the known risk factors were assessed in the cases undergoing hysterectomy and compared using appropriate statistical tests. Chi-square test was applied for testing proportions, while Mann-whitney U test was applied for comparing continuous data (due to small sample size).

Table 8: Risk factors among vaginal hysterectomy vs caesarean hysterectomy cases (n=55).

Sl. no.	Risk factor	Post-Caesarean Hysterectomy (n=36)	Post-vaginal Hysterectomy (n=19)	p value
1.	Mean Age	26.9 yrs	27.3 yrs	0.306
2.	Average Parity	2.6	2.8	0.756
3.	Rural Locality	27 (75.0%)	12 (63.2%)	0.358
4.	Illiterate	12 (33.3%)	8 (42.1%)	0.285
5.	Referral	23 (63.9%)	12 (63.2%)	0.957
6.	Mean number of ANCs	2.1	2.3	0.837
7.	Average risk factors	1.6	1.4	0.428
8.	Hospital stay	9.1 days	6.3 days	0.000
9.	Multipara	29 (80.6%)	13 (68.4%)	0.314
10.	MTP	3 (8.3%)	2 (10.5%)	0.570
11.	Prolonged labour	7 (19.4%)	5 (26.3%)	0.557
12.	Induced labour	1 (2.8%)	5(26.3%)	0.015#
13.	Previous CS	17 (47.2%)	1 (5.3%)	0.002

Fischer's exact test; Proportions are based on those having the condition out of corresponding hysterectomy type; other values are mean

Duration of hospital stay, induced labour and history of previous caesarean section were found to have significant association with the type of hysterectomy (p<0.05) (table 8). Other factors were also analysed and were seen not to have any significant association.

It was seen that the indication for hysterectomy was having significant association with type of hysterectomy, with atonic PPH being more associated with vaginal hysterectomy (Chi-

square 16.579, p=0.011).

Table 9: Indication for hysterectomy (n=55)

		Mode of Delivery		Total
		Caesarean Section	Vaginal Delivery	
Abruptio	Count	3	1	4
	Expected Count	2.6	1.4	4.0
	% within Mode of delivery	8.3%	5.3%	7.3%
Atonic PPH	Count	5	11	16
	Expected Count	10.5	5.5	16.0
	% within Mode of Delivery	13.9%	57.9%	29.1
Blunt trauma	Count	1	0	1
	Expected Count	.7	.3	1.0
	% within Mode of Delivery	2.8%	0.0%	1.8%
Placenta percreta	Count	4	0	4
	Expected Count	2.6	1.4	4.0
	% within Mode of Delivery	11.1%	0.0%	7.3%
Placenta previa	Count	3	1	4
	Expected Count	2.6	1.4	4.0
	% within Mode of Delivery	8.3%	5.3%	7.3%
Scar rupture	Count	10	0	10
	Expected Count	6.5	3.5	10.0
	% within Mode of Delivery	27.8%	0.0%	18.2%
Uterine rupture	Count	10	6	16
	Expected Count	10.5	5.5	16.0
	% within Mode of Delivery	27.8%	31.6%	29.1%
Total	Count	36	19	55
	Expected Count	36.0	19.0	55.0
	% within Mode of Delivery	100.0%	100.0%	100.0%

Discussion

Incidence of peripartum hysterectomy worldwide has been reported as ranging from 0.2 to 5.09/1000 deliveries (Kayabosglu *et al*., 2007) [17]. This study conducted in S.C.B. Medical College, Cuttack gave an incidence of post-caesarean hysterectomy of 1.6 per 1000 cases of caesarean section per year and that following vaginal delivery was found to be 0.9 per 1000 cases of vaginal delivery per year. The incidence noted was more for cases having delivery by caesarean section. Rates of peripartum hysterectomy reported by Langdana *et al*., (2001) [18] showed 0.45/1000 respectively.

In recent years an increased incidence of obstetric hysterectomy has been linked to the high caesarean section rate. Previous study, 26 patients had previous uterine scars and among them nine had placenta accreta, and nine had placenta praevia as indications for the hysterectomy. Of the nine cases with placenta accreta, five were noted in the last 6 years of the study period requiring hysterectomy. This could well be due to the increased numbers of patients with multiple caesarean sections falling pregnant. One of the reasons could be due to logistic problems and geographic location of the higher level care hospitals. The vast majority of people in the rural communities do not have access to private transport due to low social economic status, and therefore, depend heavily on the public government owned ambulance services. The delays caused by these over burdened ambulance services in transporting women with obstetric problems during emergency situations may increase the incidence of obstetric complications such as uterine atony or rupture following a traumatic home delivery which inevitably would lead to higher rates of peripartum hysterectomy if they make the trip alive to the hospital.

Previous studies reported that the commonest cause of peripartum hysterectomy was placental disorder causing intractable bleeding in 16 cases (64%). Placenta preavia occurred in 8 cases (32%), placenta accreta in 5 cases (20%) and abruptio placenta in 3 cases (12%).

In this study, there were total 55 cases of EPH, out of which 16 cases were due to uterine atony (29.1%), 16 cases were due to uterine rupture (29.1%), 10 cases were due to scar rupture (18.2 %),4 cases due to abruption (7.3%), 4 cases of placenta percreta (7.3 %), 4 cases of placenta previa (7.3 %), blunt trauma 1 case (1.8%).

The most common surgical complication after haemorrhage and infection in this study was injury to the bladder. Many patients will have a previous caesarean section causing adhesions of the bladder to the lower uterine segment, so that mobilization of the bladder may be difficult. Injudicious pressure with a swab can easily result in a tear of the bladder wall that may not be recognized, especially in the presence of haemorrhage. However, when a bladder injury is identified at operation, repaired properly and the bladder drained post-operatively for 8-10 days, fistula formation is rare.

Knight *et al*., (1986) [19] noted in their study that urinary infection, wound infection, pneumonia and paralytic ileus were common complications. Other complications stated in the report were wound dehiscence, thrombophlebitis, one case of vesico-vaginal fistula and one case of maternal death. The commonest post operative complication was urinary tract infection.

These authors showed that urologic injuries are common and usually related to scarring from previous caesarean deliveries encountered when dissecting the bladder from the lower uterine segment. Ten patients (9%) sustained urologic injuries, of these nine sustained cystotomy and three sustained ureteral injury that required stenting. Invasion of the bladder by placenta which can also lead to cystotomy or ureteral damage. In the same report peri-operative haemorrhage occurred in the vast majority of patients requiring blood transfusion.

The common complications reported by majority of the authors are in agreement with the findings in this study. There was fever in 13 cases (24%), wound sepsis in 6 cases (11%), DIC in 6

cases (11%), and cases needed ICU admission (11%), UTI in 4cases (7%), sepsis in 7 cases (13%), paralytic ileus in 3 cases (5%), blood transfusion in 50 cases (91%), ARDS in 1 case (1.8%), relap in 1 case (1.8%),jaundice in 1 case(1.8%).

In Knight *et al*'s., (2007) [19] series, they reported that 62 women (20%) returned to theatre for a second operation after their hysterectomy, 44 (14%) for further surgery to control bleeding and 18 (6%) for repair of damage to other organs sustained at hysterectomy. In this study there was one case of relaparotomy, which was a case of abruption, who developed DIC.

In this study, there were four maternal deaths from consumptive coagulopathy as a result of intractable bleeding following abruption placentae.

Operative techniques that might reduce urologic complications include careful sharp dissection of bladder in the midline to mobilize the bladder flap, placing clamps and sutures directly against side walls of the uterus and cervix, peri-operative cystoscopy with ureteral stent placement and checking the integrity of the bladder by filling a coloured solution. Advances in pharmacological modalities for the treatment of uterine atony eg prostaglandins, intramuscular carboprost and rectal misoprostol introduced in the past 10 years (Selo-Ojeme., 2002) [20] appear to have lowered the numbers of peripartum hysterectomy and maternal death due to post partum haemorrhage. Despite this, the most important step in prevention of major post partum haemorrhage for clinicians is recognizing and assessing women at risk although even perfect management of haemorrhage cannot always prevent surgery. Given that atony is a major contributor to the pathology, newer management options, such as the B-Lynch and other compression sutures may play an important role in preventing haemorrhage.

Conclusion

In conclusion, the risk factors associated with emergency peripartum hysterectomy should be identified antenatal and the high risk group of women should be delivered by skilled birth attendants and following protocols of action, measures that can contribute to reduce the high maternal morbidity and mortality associated to EPH. Also, caesarean delivery should be performed only when exclusively necessary, in appropriate clinical settings and by experienced surgeons when such risk factors are identified.

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