

## Profile of Patients Undergoing Peripartum Hysterectomy in a Tertiary Care Hospital

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### Abstract

**Introduction:** The worldwide rate of emergency obstetric hysterectomy or peripartum hysterectomy is around 1 per 1000 deliveries, being higher in developing countries. Uterine rupture is the leading indication of peripartum hysterectomy in developing countries ranging from 11 to 45 %. It is associated with severe blood loss, risk of transfusion, intraoperative complications and significant postoperative morbidity and mortality.

**Aims and Objectives:** To find the indications of peripartum hysterectomy along with complications related to maternal morbidity and mortality.

**Materials and Methods:** It is a cross sectional study conducted over 39 cases of peripartum hysterectomy in the Department of Obstetrics and Gynaecology, M.K.C.G. Medical College, Berhampur, Odisha; India from October 2019 to October 2021.

**Results:** Majority of cases, 16 cases (41%) belonged to the age group of 25-31 yrs and mostly multipara in 32 cases (82%). Overall, rate of peripartum hysterectomy was 0.14%. Rupture uterus was the major cause of peripartum hysterectomy in 21 cases (53.84%), followed by abnormal placentation in 12 cases (30.76%). Subtotal hysterectomy was done for 27 no of cases (69.23%). Haemorrhage (35.89%) and pyrexia (30.76%) were the most common intra operative and postoperative complication respectively. Maternal mortality occurred in 4 cases (10.25%) while still born seen in 23 cases (58.97%).

**Conclusion:** Identification of risk factors in the antenatal period, proper intra partum management of labour with partogram and careful trial labour of patient with history of scarred uterus can reduce the incidence of peripartum hysterectomy and maternal mortality.

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### Introduction

The worldwide rate of emergency obstetric hysterectomy or peripartum hysterectomy is around 1 per 1000 deliveries being higher in developing countries [1]. Uterine rupture (scarred and unscarred) is the leading indication of peripartum hysterectomy in developing countries ranging from 11 to 45

% [2]. Other causes include postpartum haemorrhage, morbid adherent placenta (MAP), septic abortion, gestational trophoblastic tumor, cancer cervix and others [3]. Peripartum hysterectomy is defined as the surgical removal of the pregnant or recently pregnant uterus

performed at the time of delivery, or at any time from the delivery to discharge at the same hospitalization [4]. It is associated with severe blood loss, risk of transfusion, intraoperative complications and significant postoperative morbidity and mortality [5]. It is the major intervening step performed always when all conservative measures fail to stop life-threatening postpartum haemorrhage (PPH) as a life-saving surgical procedure [6]. Planned obstetric hysterectomy may be performed in conditions like pregnancy associated with carcinoma cervix, perforating molar pregnancy and invasive molar pregnancy diagnosed ultrasonographically [7]. The rate of peripartum hysterectomy was 0.32% as reported by Mantri et al (1993) while the same was 0.09% as reported by Pawar et al (1998) [8, 9]. Thaker et al (2012) had done a retrospective study on emergency obstetric hysterectomy (EOH) over 10 years and found the rate as 0.14% and most common indication for EOH was PPH (60.6%) followed by rupture uterus (24.24%) [7]. Pati S. et al (1998) reported that rupture uterus (64.4%) was the most common indication for peripartum hysterectomy [10]. Pathiraja et al (2020) reported that most common indication of peripartum hysterectomy was MAP (63%) [11]. So this study was conducted to find out the indications of peripartum hysterectomy so that necessary interventions can be taken to reduce maternal morbidity and mortality.

#### **Aims and Objectives:**

To find out the indications of peripartum hysterectomy along with complications related to maternal morbidity and mortality.

#### **Materials and Methods:**

The cross sectional study was conducted in the Department of Obstetrics and Gynaecology, M.K.C.G. Medical College, Berhampur, Odisha; India from October 2019 to October 2021. Thirty-nine cases that had undergone peripartum hysterectomy were studied.

Patients were selected by convenient sampling basing on inclusion and exclusion criteria as follows and a detailed history of the patients regarding their obstetric status, gestational age, duration of labour pain, duration of ruptured membranes, history of manipulation by traditional birth attendants and previous history of MTP, myomectomy, caesarean section, or any other operative manipulation was taken. Inclusion criteria: obstetric factors like postpartum haemorrhage, uterine rupture, placental causes (morbidly adherent placenta & placenta previa) and puerperal sepsis; exclusion criteria: hysterectomy done for gynaecological causes, septic abortion, perforation during MTP. Clinical examination was done in each case with simultaneous resuscitation of the mother in cases of haemorrhage, severe dehydration or shock. Either total or subtotal hysterectomy was performed depending on the condition of the patient. All cases were followed critically as regards to morbidity and mortality during intra operative and postoperative period. All the data was compiled in a proforma, and discussed at the end of the study.

#### **Results:**

The results of study conducted over 39 series of cases of peripartum hysterectomy were as follows: out of 39 cases, 16 cases (41%), belonged to the age group of 25-31yrs, followed by 14 cases (35.9%) in the age group of 18-24 years, 8 cases (20.5%) in the 32-38 years age group and 1 case (2.56%) between 39-45 years of age group. Among all cases, 32 cases (82%) were of multipara and 7 cases (18%) were of primipara. Overall rate of peripartum hysterectomy was 0.14%. Most of the cases, 36 cases (92.30%) referred from rural areas, unbooked and of low socioeconomic status. On evaluation of clinical presentation before hysterectomy it showed as follows; 21 cases (53.85%) presented with labour pain, 10 cases (25.64%) presented with vaginal bleeding and 8 cases (20.51%) presented with decreased foetal movement.

According to indications of hysterectomy, rupture uterus was the major cause of peripartum hysterectomy in 21 cases (53.84%), followed by abnormal

placentation i.e MAP and placenta previa in 12 cases (30.76%) and PPH in 6 cases (15.38%)(Table-1)

**Table 1: Indications of Peripartum Hysterectomy**

Indications		No. of cases(n=39)	Percentage
Rupture Uterus		21	53.84
Abnormal Placentation	Morbidly Adherent Placenta	7	17.94
	Central Placenta Previa	5	12.82
PPH	Atonic PPH	5	12.82
	Traumatic PPH	1	2.56

Out of 39 cases studied, 17 cases (43.58%) belonged to previous CS, 10 cases (25.64%) belonged to obstructed labour, 6 cases (15.38%) belonged to parity > 3 and 6 cases (15.38%) belonged to PPH. Among 17 cases of previous CS, 7 cases (41.17%) had scar rupture, 6 cases (35.29%) had morbidly adherent placenta, 3 cases (17.64%) had placenta previa and 1 case (5.88%) had abruption. Commonest cause of rupture uterus was obstructed labour due to CPD and malpresentation in 10 cases (47.6%) followed by previous CS in 8 cases (38.0%) and traumatic rupture uterus in 3 cases (14.28%) out of 21 cases of rupture uterus.

Subtotal hysterectomy was done for 27 of cases (69.23%) and total hysterectomy in 12 of cases (30.76%) out of all undergone

EOH. In the current study, out of 17 cases (43.58%) of previous CS, 12 cases (30.76%) were of one previous CS and 5 cases (12.8%) were of two previous CS. Out of all cases studied 29 cases(74.35%) were in labour and 10 cases(25.64%) were not in labour. Out of 29 patients in labour, 18 cases (62.1%) were in labour for >24 hours while 11 cases (37.9) less than 24 hours. Out of all, 28 cases (71.8%) underwent hysterectomy following caesarean section and only 11 cases (28.2%) following vaginal delivery. Out of all rupture uteri, 20 cases (95.2%) had complete rupture and one case (4.8%) had incomplete rupture. It was associated with bladder injury in 5 cases (23.8%), broad ligament hematoma in 3 cases (14.2%) and cervical laceration and abruption in 1(4.75%) case each. (Table-2)

**Table 2: Rupture uterus and associated complications**

Rupture uterus		No. of Cases	Percentage
Type of Rupture	Complete	20	95.2
	Incomplete	1	4.8
Associated involvement	Bladder injury	5	23.8
	Broad ligament hematoma	3	14.2
	Cervical Laceration	1	4.75
	Abruptio Placentae	1	4.75

Intra operative complications were noted in 30 cases (76.92%) which included 14 cases (35.89%) of haemorrhage, 6 cases (15.38%) of shock and 5 cases (12.82%) of bladder injury and broad ligament haematoma each. Postoperatively 34 cases (87.17%) had

complications out of which 12 cases (30.76%) had fever, 7 cases (17.94%) had anaemia, 5 cases (12.82%) had wound dehiscence, 4 cases (10.25%) had shock and 4 cases (10.25%) had UTI, 1 case (2.56%) had burst abdomen and one case (2.56%)

had paralytic ileus. All patients received blood transfusion postoperatively. (Table-3)

**Table 3: Maternal complications of Peripartum Hysterectomy**

Maternal Complications		No of Cases	Percentage
Intra-Operative	Haemorrhage	14	35.89
	Shock	6	15.38
	Bladder Injury	5	12.82
	Broad Ligament Haematoma	5	12.82
	Total	30	100
Post-Operative	Fever	12	30.76
	Anaemia	7	17.94
	Wound Dehiscence	5	12.82
	Shock	4	10.25
	UTI	4	10.25
	Burst Abdomen	1	2.56
	Paralytic Ileus	1	2.56
	Total	34	100

Out of 39 cases studied 23 cases (58.97%) had still born and 16 cases (41.02%) had live births. Maternal mortality occurred in 4 cases (10.25%) including 3 cases of haemorrhagic shock and 1 case of DIC. It gives maternal mortality ratio of 14.67 per 100,000 live births.

#### Discussion:

Peripartum hysterectomy has got its own place in obstetrics to save the life of a woman. The rate of peripartum hysterectomy was 0.14% of deliveries in this study which is comparable to that of Rawashdeh et al [12] having 0.13%. According to age groups, majority cases belonged to 25-31yrs (41%) and 18-24 years (35.9%) which is similar to that of Mahbuba et al and Najma et al having age group of 25-29 years (42.5%) and 25-29 years (48.7%) respectively [13, 14].

Most of the cases, 36 cases (92.3%) were referred from rural areas which is far off from this Medical College putting them to land in this obstetric emergency which is comparable to that of Bharati Sharma et al (95%) [15]. On observation of indications of peripartum hysterectomy, commonest

indication was rupture uterus in 21 cases (53.84%) followed by abnormal placentation in 12 cases (30.76%) which included MAP and placenta previa and post partum hemorrhage in 6 cases (15.38%) which are comparable to that of Shaikh et al (51.21%) [14].

Commonest cause of rupture uterus was obstructed labour due to CPD and malpresentation in 10 cases (47.6%) followed by previous CS in 8 cases (38.0%) and traumatic rupture uterus in 3 cases (14.28%) which included forceps application and injudicious use of oxytocin out of 21 cases (53.84%) of rupture uterus. Begum et al reported that obstructed labour (33.3%) was leading cause of rupture uterus followed by scar rupture (26.6%) and trauma (20%) which is not concurrent to current study and needs further study. Higher value of obstructed labour is probably because of delay of arrival at tertiary care centre from far off places [16]. MAP and placenta previa accounted to 17.94% and 12.82% of cases of peripartum hysterectomy respectively i.e. abnormal placentation accounted to 29.76%, comparable to that of Sah S et al and Jain M

et al having 28% and 32% respectively [17,18].

In the current study, out of 17 cases (43.58%) of previous CS, 12 cases (30.76%) were of one previous CS and 5 cases (12.8%) were of two previous CS which is comparable to women having previous CS landing in peripartum hysterectomy was 43% (Glaze et al) [19]. Rapidly increasing caesarean section is a contributing high risk factor for rupture uterus and thus subsequently high risk for peripartum hysterectomy (Prabhjot et al) [20]. Out of 6 cases (15.38%) of postpartum haemorrhage, 5 cases (12.82%) had atonic PPH and 1 case (2.56%) had traumatic PPH which was similar to that of Devi et al (19.2%) and Mukherjee et al (10.3%) of atonic PPH [21, 22]. Subtotal and total hysterectomy was done in 69.23% and 30.76% of cases peripartum hysterectomy respectively which is similar to that of A.Yalinkaya et al having subtotal and total hysterectomy in 75% and 25% of cases respectively [23].

Haemorrhage (35.89%) was most common intraoperative complication out of 30 cases having intraop complication, which is similar to that of Nazma et al (46.43%), second most common was shock in 6 cases (15.38%) which was similar to that of Nazma et al (19.57%) and Mahbuba et al (12.5%) [13, 14]. The third most common was bladder injury in 12.82% of cases undergoing peripartum hysterectomy comparing with that of Jain M et al (13%) and Chibber et al (14%) [18, 24]. Post-operative complications were seen in 34 cases (87.17%). Pyrexia was the most common complication seen in 12 cases (46.15%) which is comparable to 52.63% (Jayaram et al) [25]. Burst abdomen and wound dehiscence occurred in 5.12% and 23.07% cases respectively in this study which were partly similar to that of Jain M et al having burst abdomen and wound dehiscence of 6% and 3% respectively [18]. Shock was seen in 15.38% of cases which is comparable to Nazma Bano et al [13] showing 19.57%. Out of all cases studied,

still born and live births were 58.97% and 41.02% respectively.

Maternal mortality was in 4 cases (10.25%) which included 3 cases (75%) of haemorrhagic shock and 1 case (25%) of DIC giving rise to maternal mortality ratio of 14.67 per 100,000 live births which is concurrent to 12.19% (Nazma Bano et al) [13].

### Conclusion:

The rate of peripartum hysterectomy was 0.14% i.e 1.48 per 1000 deliveries per year in the current study. It was because of the fact that majority of cases were multipara, unbooked, referred from rural areas of low socio-economic status and from far off places that contributed to high maternal and perinatal mortality and morbidity due to delay in transport to hospital through hilly pathway. Previous CS is a major contributing factor; two most common indications were rupture uterus followed by abnormal placentation attributing to the etiology of peripartum hysterectomy. Rupture uterus is still the leading causes of maternal death in a developing state like Odisha in India. Identification of risk factors in the antenatal period, proper intra partum management of labour with partogram and careful trial labour of patient with history of scarred uterus can reduce the rate of peripartum hysterectomy. Multiparity is one of the preventable causes which suggest that there is urgent need to increase literacy and contraceptive practice among women. Reduction in primary caesarean section rate will also be helpful to reduce its devastating complication in future pregnancy like rupture uterus and morbidly adherent placenta and ultimately reduces the need of peripartum hysterectomy.

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