

**To assess the prevalence of peripartum hysterectomy in tertiary care setting****Prabha Mishra***Senior Resident, Department of Obstetrics and Gynecology, Shri Krishna Medical College and Hospital, Muzaffarpur, Bihar, India***Received: 02-07-2020 / Revised: 20-09-2020 / Accepted: 29-09-2020****Abstract**

**Aim:** To evaluate the incidence, predisposing factors & associated complications and outcome of emergency peripartum hysterectomy. **Methods:** This prospective study was carried out in the Department of Obstetrics and Gynecology at Shri Krishna Medical College and Hospital Muzaffarpur, Bihar, India from July 2018 to Feb 2019. Age, parity, traumatic or atonic PPH, risk factors, complications were all studied in detail and analysed.

**Results:** 40 women underwent peripartum hysterectomy among 3960 deliveries, accounting to an incidence of 0.10%. Incidence of subtotal hysterectomy after caesarean delivery was higher as compared to vaginal deliveries. The common indications were uterine atony (47.5%), uterine rupture of scarred and unscarred uterus (40%), and placenta previa of major degree (22.5%). Post-operatively patients developed DIC (37.5%), 6 patients developed febrile illness (15%), 4 patients of ruptured uterus experienced injury to the bladder (10%). Maternal mortality in this study was 12.5%. **Conclusions:** Hysterectomy is a lifesaving procedure to control postpartum hemorrhage, but is associated with significant maternal morbidity and mortality. Uterine atony, uterine ruptures, also due to prior caesarean delivery, placenta previa were identified as risk factors.

**Keywords:** hysterectomy, caesarean delivery, placenta previa, prevalence.

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**Introduction**

Peripartum hysterectomy, a hysterectomy performed at the time of delivery or in the immediate postpartum period, is one of the most severe complications in obstetrics and is related to significant maternal mortality and morbidity.<sup>1-4</sup> Typically reserved for situations in which severe obstetric hemorrhage fails to respond to conservative treatment, peripartum hysterectomy is associated with severe blood loss, risk of transfusion, intraoperative complications, and significant postoperative morbidity. It is important to estimate national incidence rates and trends for peripartum hysterectomy to inform obstetric practice and to assess risks and complications of pregnancy.

Hospital-based retrospective case-reviews in the United States report incidence rates for peripartum hysterectomy ranging from 0.6 to 2.28 per 1,000 births.<sup>5-8</sup> However, these studies are unable to provide reliable national incidence estimates because they were conducted in single institutions with small samples. Furthermore, their findings may be influenced by patient characteristics or practitioner practice patterns for hysterectomy at individual institutions. Several studies examined pregnancy-related factors associated with risk for peripartum hysterectomy. Generally, these studies report a greater than 10-fold higher incidence of peripartum hysterectomy among women who have previously delivered by cesarean section than among those who have not.<sup>2,6-9</sup> This finding deserves closer examination, given the increasing rate of cesarean deliveries in the United States, even among low-risk women.<sup>10</sup> However, few studies examined the effect of previous cesarean deliveries within the context of the current mode of delivery. Another reported risk factor for peripartum hysterectomy is multiple births, the rate of which is also increasing in the United States.<sup>11</sup> It is important to note, however, that other studies were small and limited in the ability to

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examine risk factors for the procedure while adequately controlling for potential confounding factors.

Uterine atony, most commonly found in prolonged, augmented and/or obstructed labour, such uteruses respond poorly to oxytocin. The majority of these cases occur at the time of caesarean section for dystocia or cephalopelvic disproportion. Uterine rupture within prior caesarean section scar, if haemorrhage cannot be controlled hysterectomy is necessary.<sup>12</sup> Traumatic rupture following instrumental delivery, obstructed labour, inversion of uterus, induced labour is also possible. Secondary postpartum haemorrhage secondary to retained products and sepsis may rarely require hysterectomy.

#### Material and methods

This prospective study was carried out in the department of Obstetrics and Gynecology at Shri Krishna Medical College and Hospital Muzaffarpur, Bihar, India from July 2018 to feb 2019, after taking the approval of the protocol review committee and institutional ethics committee. After taking informed consent detailed history was taken from the patient or the relatives if the patient was not in good condition. Total 40 patients who were clinically diagnosed and operated on benign ovarian cysts were included into the study.

#### Inclusion criteria

1. Patients who suffered severe post-partum haemorrhage and did not respond to conservative management

2. Patients with ruptured uterus of both scared and unscarred uterus which could not be repaired

#### Exclusion criteria

Hysterectomies performed for gynaecological reasons

#### Methodology

Data abstracted included demographic data – age, parity, mode of delivery, prior caesarean sections, presence of placenta previa, presence of uterine rupture & uterine atony as a cause of PPH and traumatic PPH. The postsurgical complications, duration of hospital stay, maternal mortality & morbidity were recorded. Descriptive analyses were carried out to summarize relevant variables.

#### Statistical analysis

The recorded data was compiled and entered in a spreadsheet computer program (Microsoft Excel 2010) and then exported to the data editor page of SPSS version 19 (SPSS Inc., Chicago, Illinois, USA). Descriptive statistics included computation of percentages and means.

#### RESULTS

**Table 1.demographic of patients**

<b>Emergency hysterectomy</b>		
Age	N=40	%
<20	02	5.0%
21-30	32	80%
31-40	6	15%
<b>Parity</b>		
1	6	15%
2	18	45%
3	13	32.5%
>3	3	7.5%
<b>Mode of delivery</b>		
Vaginal	12	30%
Caesarean	26	65%

Instrumental	2	5.0%
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**Table 2: Risk factors of emergency hysterectomy**

Risk factor	N	%
<b>Caesarean section</b>		
Prior no LSCS	14	35%
Prior 1 LSCS	10	25%
Prior 2 LSCS	2	5%
Prior 3 LSCS	0	
<b>Placenta previa</b>		
Yes	9	22.5%
No	31	77.5%
<b>Parity</b>		
3	13	30.2%
>3	4	9.3%

**Table 3: Indications for emergency peripartum hysterectomy**

Indications		
Atonic uterus	19	47.5%
Rupture of scarred uterus	8	20%
Rupture of unscarred uterus ( spontaneous rupture)	8	20%
a) primigravida	1	
b) multigravida	7	
Secondary PPH	4	10%
Acute inversion of uterus	1	2.5%

**Table 4: Observations of patients**

Observations	N	%
Intraoperative hypotension	12	30%
Febrile illness	6	15%
ICU admission	26	65%

Mean hospital stay		
<10days >10days	14 21	35% 52.5%

**Table 5: Complications noted in the study**

Complications	N (%)
DIC	15 (37.5%)
Injury to the bladder	4 (10%)
Death	5 (12.5%)
Vesicovaginal fistula	2 (5%)

**Discussion**

PPH along with sepsis and hypertensive disorders of pregnancy is a major cause of maternal mortality in India. Peripartum hysterectomy is a lifesaving surgery performed on a mother with intractable obstetric hemorrhage. In active management of the third stage of labor, drugs such as misoprostol and uterine artery embolization among other measures have markedly reduced maternal deaths from PPH. However, describing a reduction in maternal mortality rate is just describing the tip of an iceberg. The WHO has thus emphasized on the concept of maternal near miss.<sup>13</sup> Any pregnant woman who undergoes peripartum hysterectomy could have potentially died without timely and proper management.

The incidence of peripartum hysterectomy is increasing in this era not because of improperly managed third stage of labor or obstructed labor but most likely because of increasing incidence of cesarean sections. Chances of repeat cesarean sections thus increase. This ultimately increases the incidence of placenta previa and accreta.

Emergency peripartum hysterectomy is a lifesaving procedure of choice in cases of intractable hemorrhage and catastrophic rupture of uterus.<sup>14</sup> It is an unequivocal marker of severe acute maternal morbidity. It is associated with a high index of maternal mortality and morbidity.

In developed countries, the reported incidence of emergency hysterectomy is below 0.1% of the total normal deliveries performed, while in developing countries, the incidence rates are as high as 1-5/ 1000 of all the deliveries performed. The incidence in the present study is 1.4 per 1000 deliveries. The primary reason for this higher incidence is due to the fact that our hospital is a referral centre to most of the primary

health care centres in surrounding rural areas. Majority of the patients are unbooked, and deliver outside the health facilities unsupervised or poorly supervised and are referred to in a deteriorated state.

The main indications for peripartum hysterectomy in developed countries are uterine atony and abnormal placentation, where as in developing countries, it was rupture of uterus and atony of uterus.<sup>15</sup> The most common causes of EPH in our study are atonic uterus, rupture uterus of unscarred and scarred uterus. Uterine rupture remains one of the serious obstetric complications even in modern obstetrics.<sup>16</sup> Lack of health information, illiteracy, poor antenatal care, poverty, home delivery by birth attendants, delay in referrals all contribute to uterine rupture. Injudicious use of oxytocin and trial of labour was the common cause, whereas prolonged obstructed labour was the second common cause. In our study 40 underwent emergency peripartum hysterectomy, yielding to an incidence of 0.10%.

In our analysis, the incidence of peripartum hysterectomy is 1 /1000 deliveries, which is near to incidence of 0.2 and 5.4 in 1000 deliveries.<sup>17,18</sup> In our study, the most common indications of peripartum hysterectomy were atonic uterus (47.5%), and rupture uterus (40%). Similar study done by Saxena et al.<sup>19</sup>

**Conclusions**

Hysterectomy is a lifesaving procedure to control postpartum hemorrhage, but is associated with significant maternal morbidity and mortality. Uterine atony, uterine ruptures, also due to prior caesarean delivery, placenta previa were identified as risk factors. The incidence in this part of Bihar was found to be significantly high as compared to other areas of India. Hence only proper awareness, timely referral and

correction of anemia are the key factors to be addressed to this part of the state

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