EMERGENCY PERIPARTUM HYSSTERECTOMY: INCIDENCE, INDICATIONS AND FETOMATERNAL OUTCOME IN A TERTIARY CARE HOSPITAL

Saima Wani, Perveena Fareed, Yasmeena Gull, Neha Mahajan

S. R. Department of Obstetrics and Gynecology GMC Srinagar.

ABSTRACT

Objectives: The objectives of this study were to determine the incidence, maternal characteristics, indications and the maternal and perinatal outcome of emergency peripartum hysterectomies done in the Department of Obstetrics and Gynecology Government Medical College Srinagar.

Study Design: This was a retrospective descriptive study done from January 2011-December 2013 over a three year period.

Results: The incidence of peripartum hysterectomy during the study period was 1.46/1000 deliveries. The frequent age group was 31-35 years. The main indication of peripartum hysterectomy was life threatening hemorrhage due to uterine rupture (23), uterine atony (22), placenta accrete (18), placental abruption (16), placenta previa (13), broad ligament hematoma (7), retained placenta, Secondary postpartum hemorrhage and uterine fibroid (1 each) 81.37% hysterectomies were total and 16.63% were subtotal. The average pre- and intraoperative blood loss was 2.5 Lt ±0.6. All patients needed blood transfusion. All patients received Perioperative antibiotics.

Intraoperative complications developed in 15 patients which were bladder injury (5), Adnexial bleeding (5) and broad ligmament hematoma (4). 69.6% patients needed intensive care. The common post operative complications were febrile morbidity (15.68%), wound sepsis (10.78%), pneumonia (8.82%), coagulopathy (5.88%), Cuff cellulitis and vesicovaginal fistula (1.96% each).

The stillbirth rate was 303/1000. Most stillbirths occurred in uterine rupture (61.29%) followed by placental abruption (25.80%). Maternal mortality rate was 117/1000 live births.

The average hospital stay was 13+4days.

Conclusion: Emergency peripartum hysterectomy has significant effect on fetomaternal morbidity and mortality. Hence antenatal identification of high risk patients and proper management of second and third stage of labor and emergency preparedness are important in decreasing the rate of peripartum hysterectomy and improving the outcome.

Key Words: Emergency peripartum hysterectomy, Uterine rupture, Placenta accrete and uterine atony

INTRODUCTION

Emergency peripartum hysterectomy (EPH) is one of the life saving procedure performed after vaginal delivery or caesarean section or in immediate postpartum period done for intractable haemorrhage. The most common indication of EPH being severe uterine hemorrhage that cannot be controlled by conservative measures. Hemorrhage may be due to abnormal placenta like placenta accrete, atomic uterus, uterine rupture, uterine fibroid and coagulopathy. India the reported peripartum hysterectomy rate is 2.6 per 1000 live births. In United States, the rate is between 1.2 and 2.7 per 1000 births. However the peripartum hysterectomy rate is lower in European countries( 0.2 per 1000 births in Norway and 0.3 per 1000 births in Ireland). Peripartum hysterectomy is associated with severe blood loss, risk of transfusion, intraoperative complications and significant postoperative morbidity and mortality. Maternal mortality rate with EPH ranges from 0-30%.
MATERIALS AND METHODS

This retrospective descriptive study was carried in the Department of Obstetrics and Gynecology GMC Srinagar from January 2011-December 2013. Ethical clearance was taken from ethical committee. All the patients who underwent Emergency peripartum hysterectomy were identified from operative room, labor room and intensive care unit record book. Peripartum hysterectomy was defined as hysterectomy performed after 24 weeks of gestation at the time of delivery or within 42 days of delivery. Hysterectomies done before 24 weeks gestation for any reason were excluded from the study. The total number of deliveries during that period was also identified. Medical record sheets of above patients were analyzed in detail.

The age, parity, indication for hysterectomy, blood loss, type of hysterectomy, intraoperative and postoperative complications, blood transfusion, fetal outcome, duration of hospital stay and need for Intensive care were noted. Records of blood loss included blood loss before and during surgery. Febrile morbidity was defined as a temperature of 38°C or more on any two consecutive days excluding first 24 hrs. Wound infection was defined as the presence of any two of the following: purulent discharge/obvious cellulitis, elevated temperature and positive wound culture.

Data obtained was analyzed with the SPSS 10.0 for windows.

RESULTS

There were 102 peripartum hysterectomies performed during this three year period from January 2011- December 2013. During this same period there were a total of 69742 deliveries. The peripartum hysterectomy rate was therefore 1.46/1000 deliveries.

The age of patients ranged from 16-45 years. (Table 1). The highest number of patients was in the 31-35 yr age group followed by 26-30 yr group.

The parity of patients ranged from 1-6 (Table 2). The highest frequency was in those from Para 1-3 followed by women more than Para 6.

The gestational age of patients ranged from 28-42 weeks. Most common gestational age was 37-40 weeks followed by 28-36 weeks.

The indication of peripartum hysterectomy was hemorrhage due to rupture uterus; uterine atony; placenta accrete; placental abruption; placenta previa; broad ligament hematoma; secondary postpartum hemorrhage, retained placenta and uterine fibroid (1 each).

Conservative methods were tried in patients with atonic uterus before the final decision of hysterectomy. The conservative methods include use of Oxytocics, Systematic de-vascularisation and uterine tamponade. 83(81.37%) of the hysterectomies were total and 19 (16.63%) were subtotal.

Estimated blood loss ranged from 1-5 Lt with a mean of 2.5±0.9. All patients received Perioperative antibiotics. Blood transfusion was needed in all patients (100%). Intraoperative complication occurred in 15 patients. These were urinary bladder injury (5), broad ligament hematoma (4), Adnexial bleeding (5), and retroperitoneal hematoma (1). 71(69%) patients needed ICU care. Two patients needed re-exploration and 6 had coagulopathy. Postoperatively 16 patients developed febrile morbidity, 17 had wound infection, 2 developed Vesicovaginal fistula.

The maternal mortality rate was 117/1000. The maternal mortality was distributed as under (Table 6).There were 71 live births and 31 still births. The still birth rate was 303/1000 births.19 stillbirths occurred in uterine rupture, 8 occurred in placental abruption and 4 in uterine atony.

The mean duration of hospital stay was 13±4 days with a range of 8-45 days.

DISCUSSION

This was a retrospective descriptive study conducted in the Department of Obstetrics and Gynecology, GMC Srinagar from January 2011-December 2013.

Peripartum hemorrhage is a major cause of maternal morbidity and mortality and emergency hysterectomy is a means of controlling life threatening hemorrhage. In the study period the hysterectomy rate was 1.46/1000 deliveries. This rate is comparable (1.2/1000) to rates observed by Sebitloane et al.11 Similar peripartum hysterectomy rate was observed by Nasrat et al.12

The highest frequency of patients was in age group 31-35 years. Similar observations were made by Kwame-Aryee et al.13 The major indications of peripartum hysterectomy were uterine rupture followed by uterine atony. This is consistent with findings by Shava J et al.14 Nasrat et al had uterine atony as major cause followed by uterine rupture.12

83(81.37%) hysterectomies were total and 19(16.63%) were subtotal. It has been suggested that performing emergency total hysterectomies is unnecessary.15 Advocates of total hysterectomy have suggested the long term complications of vaginal discharge, vaginal bleeding and need for cervical cytology as reason for performing total hysterectomy. Emergency peripartum hysterectomy has high complications because of increased blood supply to the pelvic organs dur-
ing pregnancy and distorted pelvic anatomy due to gravid uterus.16

Twenty three (22.54%) of patients had complications with some patient having more than one complication. Similar observations were made by Zorlu et al.,17 Kwame-Aryee et al.13 and Sebitloane et al.11 As majority of the complications are due to hemorrhage and injury to urinary tract, the obstetrician should be assertive in making early decision of hysterectomy before the patient exsanguinates, reduce operative time by clamping and the uterine pedicles off first till uterine arteries are secured, then proceed with suturing and tying the pedicles and be familiar with pelvic anatomy.

The still birth rate was 303/1000 births with 19(61.29%) deaths in uterine rupture and 25.8% in placental abruption. The still birth rate is similar to rates by Sebitloane et al.11 and Adanu et al.18

Maternal mortality rate was 117/1000 in the study. Uterine atony accounted for 58.3%, uterine rupture and placenta previa for 16.6% each. The mortality rate was higher than observed in some studies.17,19 Kwame-Aryee et al.13 had maternal mortality rate of 12.9%.

About 1/3rd of cases of peripartum hysterectomies were performed in patients who were thought to be low risk for the procedure. Residents should be made aware of the risk factors and be technically exposed to this procedure by encouraging them to assist in difficult hysterectomies. Use of live videotapes may compliment this exposure in teaching institutions.

Patients at risk of peripartum hysterectomy should be identified and counseled regarding delivery in a hospital that has blood bank facility, backup of experienced obstetricians and availability of intensive care unit. As caesarean section is a risk factor for hysterectomy, its rate should be reduced and trial of vaginal birth after caesarean section should be given to patients.

CONCLUSION

Emergency peripartum hysterectomy has significant effect on fetomaternal morbidity and mortality. Hence antenatal identification of high risk patients and proper management of second and third stage of labor and emergency preparedness are important in decreasing the rate of peripartum hysterectomy and improving the outcome.

ACKNOWLEDGEMENT

Authors acknowledge the immense help received from the scholars whose articles are cited and included in references of this manuscript. The authors are also grateful to authors/editors/publishers of all those articles, journals and books from where the literature for this article has been reviewed and discussed.

REFERENCES

### Table 1: Age Distribution of patients and other characteristics

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16-20</td>
<td>1(0.9)</td>
</tr>
<tr>
<td>21-25</td>
<td>8(7.84)</td>
</tr>
<tr>
<td>26-30</td>
<td>28(27.45)</td>
</tr>
<tr>
<td>31-35</td>
<td>39(38.25)</td>
</tr>
<tr>
<td>36-40</td>
<td>23(22.54)</td>
</tr>
<tr>
<td>40-45</td>
<td>3(2.94)</td>
</tr>
</tbody>
</table>

#### Antenatal care
- Booked: 44(43.13%)
- Unbooked: 58(56.86%)

#### Residence
- Rural: 67(65.68%)
- Urban: 35(34.31%)

#### Education
- Literate: 26(25.4%)
- Middle: 20(19.6%)
- High School: 12(11.7%)
- Graduate and more: 12(11.7%)
- Illiterate: 44(43.13%)

### Table 2: Parity of the patients

<table>
<thead>
<tr>
<th>Parity</th>
<th>Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>46(45.09)</td>
</tr>
<tr>
<td>4-6</td>
<td>23(22.54)</td>
</tr>
<tr>
<td>&gt;6</td>
<td>33(32.35)</td>
</tr>
</tbody>
</table>

### Table 3: Gestational Age at delivery in weeks

<table>
<thead>
<tr>
<th>Gestational Age</th>
<th>Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>28-36</td>
<td>8(7.84)</td>
</tr>
<tr>
<td>37-40</td>
<td>87(85.29)</td>
</tr>
<tr>
<td>41-42</td>
<td>7(6.86)</td>
</tr>
</tbody>
</table>

### Table 4: Indications of peripartum hysterectomies

<table>
<thead>
<tr>
<th>Indications</th>
<th>Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rupture uterus</td>
<td>23(22.54)</td>
</tr>
<tr>
<td>Uterine Atony</td>
<td>22(21.56)</td>
</tr>
<tr>
<td>Placenta Accreta</td>
<td>18(17.64)</td>
</tr>
<tr>
<td>Placenta abruption</td>
<td>16(15.68)</td>
</tr>
<tr>
<td>Placenta Previa</td>
<td>13(12.74)</td>
</tr>
<tr>
<td>Broad ligament hematoma</td>
<td>7(6.86)</td>
</tr>
<tr>
<td>Retained Placenta</td>
<td>1(0.98)</td>
</tr>
<tr>
<td>Secondary PPH</td>
<td>1(0.98)</td>
</tr>
<tr>
<td>Uterine Fibroid</td>
<td>1(0.98)</td>
</tr>
<tr>
<td>Total</td>
<td>102(100%)</td>
</tr>
</tbody>
</table>

### Table 5: Perioperative complications

#### Intraoperative complications
- Urinary bladder injury: 5(4.90)
- Broad ligament hematoma: 4(3.92)
- Adnexial bleeding: 5(4.90)
- Retroperitoneal hematoma: 1(0.98)

#### Post Operative Complications
- Re-expansion: 2(1.96)
- Coagulopathy: 6(5.88)
- Febrile morbidity: 16(15.68)
- Wound Sepsis: 11(10.78)
- Renal failure: 3(2.94)
- Pneumonia: 9(8.82)
- Pulmonary oedema: 3(2.94)
- ICU care: 71(69.60)
- Cuff cellulitis: 2(1.96)
- Vescovaginal fistula: 2(1.96)

### Table 6: Maternal Mortality

<table>
<thead>
<tr>
<th>Cause of death</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uterine atony</td>
<td>7</td>
<td>58.3%</td>
</tr>
<tr>
<td>Uterine rupture</td>
<td>2</td>
<td>16.6%</td>
</tr>
<tr>
<td>Placenta previa</td>
<td>2</td>
<td>16.6%</td>
</tr>
<tr>
<td>Placenta accrete</td>
<td>1</td>
<td>8.3%</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>100%</td>
</tr>
</tbody>
</table>