



Trends of Peripartum Hysterectomy in 11 years Study at Tertiary Care Hospital, Kota

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ABSTRACT

Objectives: We sought to determine the frequency, demographic characteristics, indications and maternal and fetal outcomes associated with emergency peripartum hysterectomy in an easily assessable tertiary care hospital.

Methods: we conducted a retrospective, observational and analytical study over a period of 11 years from January 2006 to December 2016. A total of 131 cases of emergency peripartum hysterectomy (EPH) were studied in department of Obstetrics and Gynecology, JK LON Hospital attached with medical college, KOTA.

Results: The incidence of EPH in our study was 131 cases in 100663 total deliveries i.e. 1.30 per 1000 deliveries. Abnormal placentation (32.82%) was most common indication followed by atonic postpartum hemorrhage (31.29%), and uterine rupture(28.24%). Most cases (83.20%) were unbooked and most common risk factors were previous cesarean section(s) and multiparity.

Conclusion: A balanced approach to EPH can prove to be life saving at times when conservative medical and surgical modalities fail and interventional radiology not available. Our study highlights the place of extirpative surgery in modern obstetrics in the face of rising rates of cesarean section particularly in developing countries.

Keywords: Emergency peripartum hysterectomy (EPH), rupture uterus, cesarean section (CS).

INTRODUCTION

Emergency peripartum hysterectomy (EPH) is defined as extirpation of the uterus either at the time of cesarean section or following vaginal delivery, or within the puerperium period. It is usually performed in the face of unrelenting and life-threatening obstetric hemorrhage. EPH can be rightly classified as a near miss event. It is important to study such events since they provide an insight into the standard of care provided and help to reduce maternal morbidity and mortality.

The first cesarean hysterectomy was described in 1876, by Eduardo Porro of Milan for PPH resulting live baby and mother.⁽¹⁾ In general, the leading cause in developing countries is uterine atony and abnormal placentation in developed world. Since 1980, a change in trend of epidemiology has been observed in various studies.⁽²⁾ Uterine atony and rupture have been overtaken by abnormal placentation which is thought to be due to rising rate of cesarean section

worldwide and improvement in conservative methods for uterine atony.

Conservative medical and surgical methods such as community-based use of misoprostol, oxytocin, condom catheter balloon, and non-inflatable anti-shock garments for the management of hypovolemic shock, B-lynch sutures, uterine artery and internal iliac artery ligation have all been advocated to effectively manage obstetric hemorrhage⁽³⁾. Advances in interventional radiology have also provided the option of uterine artery embolization.⁽⁴⁾ Studies also show that previous uterine scar associated with increased risk of abnormal placentation and EPH.⁽²⁾

The global incidence of EPH varies from 0.24 to 5.09 per thousand of deliveries.⁽⁵⁾

Peripartum hysterectomy being an unplanned and emergency is associated with significant morbidity and mortality as compared to non-obstetric. It has 25 times higher mortality.⁽⁶⁾ The improvement in conservative methods of postpartum hemorrhage (PPH) and blood transfusion facilities has improved the outcome.⁽⁴⁾

MATERIALS AND METHOD

A retrospective observational study of patients was conducted at the department of Obstetrics and Gynecology, at JK LON hospital attached with medical college, Kota, from January 2006 to December 2016, for a period of 11 years. Data was collected and analyzed to estimate various demographic characteristics, indications, high risk factors and maternal and fetal outcome. We included women delivered in the hospital in the mentioned period, after 26 weeks of gestational age who underwent for hysterectomy at the time of delivery or subsequently within the defined period of puerperium (42 days).

RESULTS

During the study period, there were 100663 total deliveries including 27167 cesarean deliveries; making the cesarean delivery rate 26.98%. A total of 131 obstetric hysterectomies were performed during this period with an incidence of 1.30 per 1000 deliveries.

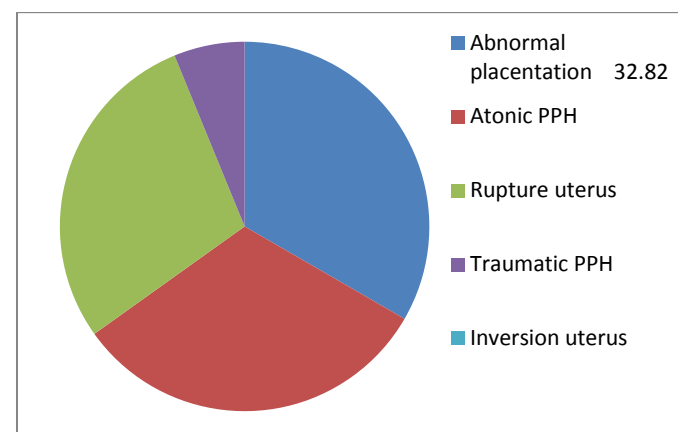
A majority of cases (n=67(51.14%)) belonged to age group of 26-30 years followed by 36 (27.48%) cases in age group of <25 years. Among the patients who underwent EPH 72.50% (n=95) cases were of para 3 or above. Age- and parity-wise distribution was as given in Table 1.

There were only 22(16.80%) cases were booked while majority 109 (83.20%) were unbooked. 60/131 were properly referred cases from periphery, while rest reported directly to emergency.

All hysterectomy were performed due to intractable obstetric hemorrhage that was unresponsive to conservative medical and surgical methods, representing an incidence of 1.30/1000 deliveries. Total hysterectomy were performed in 33 (25.19%) EPH cases while in rest (n=98, 74.81%) subtotal hysterectomy performed.

The most common indication for EPH was abnormal placentation either morbid adherent placenta or placenta previa (32.82%) followed by uterine atony (31.29%) and rupture uterus (28.24%). There were 8 cases of traumatic PPH, 6 in normal delivery and 2 during cesarean section, where intractable hematoma extended to bilateral broad ligament compromising life of patients. Figure 1

FIGURE :1 Causes of EPH



Most cases of EPH were following cesarean section (68/131, 51.90%), 43/131 (32.82%) were after vaginal deliveries, another 13.74% (18/131) were performed during laprotomies conducted for rupture uterus. There were 2 cases of inversion uterus where atonic PPH threatening to life of patients and inversion not reducible.

TABLE:1 Age wise distribution of patient of EPH

Age group (years)	No.	Percentage %
<25years	36	27.49
26-30	67	51.14
31-35	12	9.16
36-40	7	5.34
>40	9	6.87
Total	131	100

TABLE: 2 Parity wise distribution of EPH patients

Gravida	No.	Percentage %
Primi	4	3.05
2	32	24.43
3	49	37.40
4	22	16.80
5 or above	24	18.32
Total	131	100

Most common indication of cesarean delivery was history of previous cesarean section (n=52) followed by obstructed labor (n=11) and placenta abruption (n=5). 33/43 (76.74%) cases of morbidly adherent placenta were with previous cesarean scar.

Obstetric hysterectomy though it was performed to save life of patients, is associated with numerous complications noted were febrile morbidity (n=38,29%), wound infection or sepsis (n=21,16.03%) bladder injury (n= 11,8.39%) followed by ARF (n=9,6.87%), and DIC (n=8,6.10%). Table 4

TABLE: 4 Maternal outcome in EPH

Complication	No. of cases	Percentage %
Febrile morbidity	38	29
Wound infection or sepsis	21	16.03
Bladder injury	11	8.39
ARF(acute renal failure)	9	6.37
DIC	8	6.10
Maternal mortality	11	8.39

There were 11 maternal death (8.39%), all were due to DIC and ARF. 1 from hypovolumic shock. Perinatal mortality was 32.84% (n=43), with 88 (67.16%) live births. Average duration of hospital stay was 9.75 days per pt. Blood transfusion was in the range of 2-10 units.

DISCUSSION

Despite advances in medicine and surgery, PPH remains one of the leading cause of maternal morbidity and mortality. EPH is performed in the treatment of a life threatening obstetric hemorrhage that cannot be controlled by conventional methods. The reported incidence of EPH varies from 0.24 to 5.09 per thousand deliveries in the literature.⁽⁵⁾ Our incidence of 1.30/1000 is in agreement with recent studies. It is comparable to study conducted by Sahu et al⁽⁷⁾ and Kastner et al. ⁽⁸⁾, the majority of the cases are unbooked and has a poor access to healthcare.

The most common indication of EPH in our study was abnormal placentation (32.82%) followed by uterine atony and rupture uterus. Morbidly adherent placenta was observed in 48.9% by Kastner et al ⁽⁸⁾ and 50% by Baskett et al.⁽⁹⁾ in recent years, abnormal placentation has become a common indication due to increase in numbers of previous cesarean scar. Kwee et al ⁽²⁾ reported that both previous CS and cesarean section in index pregnancy were associated with significant increased risk of EPH. The risk of placenta accreta increased from 0.19% for one previous CS to 9.1% for four or more previous CS. The attempt to separate the adherent placenta can induce a massive hemorrhage. Thus a prompt and timely decision to proceed to hysterectomy may improve the outcome.⁽²⁾

In our study, majority of patients who underwent for EPH were multipara. Similar trend observed by Amad and Mir ⁽¹⁰⁾ and Barkley et al. We had performed 74.81% subtotal hysterectomy and 25.19% total hysterectomy. Currently the proportion of subtotal hysterectomy ranges from 53-80%. ⁽¹¹⁾ Subtotal hysterectomy report a lesser blood loss, reduced operative time and reduced complication rate as compared to total hysterectomy but may not be effective in controlling the bleeding from lower uterine segment as in placenta previa. In that situation total hysterectomy needed. The risk factors observed in our study were multiparity, previous cesarean section, cesarean in index pregnancy, placenta previa etc. similar risk factors were

observed in other studies.^(2,12) maternal morbidity observed in our study were requirement of blood transfusion (90%) , febrile illness (29%), bladder injury (16.79%) wound infection (16.03%), DIC and ARF. There was maternal mortality in our study.

Machado LS⁽¹²⁾ analyzed the complications of EPH from various studies. Observed maternal morbidity rate was 26.6 to 31.5%. the common complications were blood transfusion requirement, febrile episodes, urinary tract injury, wound infection, DIC, ileus and vaginal cuff bleeding. Maternal mortality ranges from 0-12.5% with mean of 4.8%.

CONCLUSION

EPH is a life saving procedure for managing life threatening obstetrical hemorrhage, when all conservative methods fail. Most of time it is unplanned and unavoidable. Therefore antenatal anticipation of risk factors, involvement of experienced obstetrician and a prompt and timely intervention may improve outcome. The indication of EPH in recent years has changed from traditional uterine atony to abnormal placentation, which is thought to be due to increase in rate of CS. So attempt should be made to reduce the rate of primary cesarean section.

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