

Emergency Peripartum Hysterectomy in a Tertiary Care Centre of North India during COVID-19 Pandemic: A Retrospective Study

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ABSTRACT

Introduction: The pandemic of Coronavirus Disease 2019 (COVID-19) had a significant impact on obstetric surgeries. Obstetric surgical procedures during the COVID-19 pandemic affect individuals who are suspected or proven to be high-risk endeavors.

Aim: To evaluate the demographic characteristics, indications, intraoperative and postoperative complications, and foetomaternal outcomes in the women who had an Emergency Peripartum Hysterectomy (EPH) during the first and second waves of the COVID-19 at a tertiary care centre in North India.

Materials and Methods: This was a retrospective cohort study, conducted in the Department of Obstetrics and Gynaecology at a tertiary care centre in Uttar Pradesh, India, including women who underwent EPH operated from March 2020 to May 2021 in terms of demographic characteristics, indications, intraoperative and postoperative complications, and foetomaternal outcomes. Information about their self-reported health issues due to traumatic birth (when they came for a follow-up visit at five weeks) were also obtained. Simple frequency, percentage, and proportion were calculated using descriptive statistics.

Results: A total number of 1827 deliveries were conducted and out them 11 cases underwent emergency peripartum

hysterectomy at the institute during the time frame of the COVID-19 pandemic. All of the patients were in the age range 21-34. All of these were unplanned pregnancies and arrived at various gestational ages. Eight cases had the previous scarring on the uterus, with six women having morbidly adhered placenta. All of the women in the study cohort were unbooked, and 72.73% (8 out of 11) of them were referred to the centre because they had high-risk factors. Due to substantial blood loss, five females required Critical Care Unit (CCU) support. The study sample had a poor newborn outcome, with three early neonatal deaths out of 11 deliveries. As a part of their 5th-week follow-up, after the women had been stabilised and discharged from the ICU, they were asked to share their major issues related to health, psychological status and social interaction. The main worries revolved around the newborn child's and COVID-19 positive husband's health. Pregnant women who delivered during the COVID-19 pandemic had a significant rate of postpartum depression and Post-traumatic Stress Disorder (PTSD).

Conclusion: The predominant cause of EPH in the study population was a morbidly adherent placenta. It is critical to protect women's physical and psychological health during traumatic childbirth in order to mitigate the pandemic's already-existing harmful impacts.

Keywords: Coronavirus disease-2019, Morbidly adherent placenta, Obstetric caesarean hysterectomy, Postpartum haemorrhage

INTRODUCTION

The Coronavirus Disease 2019 (COVID-19) pandemic outbreak had a significant impact on people's lives all around the world [1]. The COVID-19 pandemic, caused by the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), started in December 2019 in Wuhan, Hubei Province, China, and instantly spread around the world. The World Health Organisation (WHO) declared it a Public Health Emergency of International Concern (PHEIC) on January 30th 2020 [2]. The Indian Government has announced a statewide lockdown in the first phase that will commence on March 23, 2020, as a preventive measure to limit the spread of the virus [3,4]. Various government regulations, particularly those addressing the health sector, have undergone significant modifications. While health facilities continued to provide necessary services, elective procedures had to be reduced for hospital resources to be diverted to the COVID-19 pandemic. The record indicates that the COVID-19 pandemic in India peaked in September 2020 and then gradually declined until the nadir was reached in February 2021, after which cases again increased until May 2021, when the next peak occurred, considering the first wave from September 2020 to January 2021 and the second wave from February 2021 to May 2021 [5].

The Ministry of Health and Family Welfare issued recommendations in collaboration with Federation of Obstetricians and Gynaecologists of India (FOGSI) to provide uninterrupted health services to pregnant

women who are considered a high-risk population [6]. Despite this, analysis indicates that during the rigorous lockdown, the acceptability of crucial maternal healthcare dropped dramatically [7]. Travel restrictions, fear of contracting COVID-19 and a lack of health facilities in low-resource communities all contributed to a reduction in prenatal visits. As a result of this ignored health check-up status, many women attend labour phases with high-risk variables, making them vulnerable to labour complications and emergency surgery [8].

The parturient experiences a range of feelings during labour and childbirth, ranging from joy and elation to agony and grief in the event of a traumatic birth [9]. Every woman enters the birth room hoping to feel excitement and pride as a result of her maternal instinct [10]. However, this happy occasion can sometimes be accompanied by negative emotions such as melancholy, emptiness, and a sense of worthlessness [10-13]. The parturient's physical, mental, and psychological well-being might be significantly impacted by an Emergency Peripartum Hysterectomy (EPH). According to the literature, one out of every 1000 women in the world has EPH [14, 15]. The emotional and psychological repercussions of a caesarean hysterectomy are little understood. The patient population, in this case, is a young woman who is already in a vulnerable mental state, and exposing her to this horrific life event may worsen her mental state. Post-traumatic Stress Disorder (PTSD) is recognised to be linked to a traumatic birthing experience [16].

Furthermore, during the COVID-19 pandemic, females who delivered newborns reported increased levels of stress during labour. The current pandemic scenario may have an impact on her emotional and social well-being. Since the outbreak of the COVID-19 pandemic, every new patient in the hospital was considered a COVID-19 suspect until the test results were negative. As a result, pregnant women who required immediate delivery but did not had their COVID-19 test results received necessary care in a COVID-19 suspicious area, assuming the risk of contracting COVID-19 from other patients in the same room if one of them tests positive for infection [17,18]. This only added to their anxiety associated with lower quality maternal-infant bonding [19].

With this goal in mind, authors sought to study women who had EPH during the COVID-19 pandemic in terms of socio-demographic characteristics, indications, intraoperative and postoperative complications, and health concerns connected to a traumatic birth. As limited data is available in the literature, this study is distinctive in that it is the first to examine the details of EPH cases with a focus on their own health difficulties as a result of a traumatic birth during the COVID-19 pandemic.

MATERIALS AND METHODS

This retrospective cohort study was conducted in the Department of Obstetrics and Gynaecology, Institute of Medical Sciences, Banaras Hindu University, Varanasi, a tertiary care centre in Uttar Pradesh, India among pregnant female who underwent EPH operated from March 2020 to May 2021. The Institutional Ethical Committee of the Institute of Medical Sciences at BHU approved this study with letter number BHU/IEC/21/405. This institute serves a large population area, and the nationwide lockdown made movement difficult, even in an emergency. Authors began using telemedicine to continue delivering routine antenatal care, reducing the number of physical visits for low-risk mothers. All COVID-19 safeguards were being taken by emergency services.

Inclusion and Exclusion criteria: All the EPH cases between March 2020 and May 2021 were included in the study. This study also included all women who were delivered outside and were referred to the institution for obstetric complications requiring a hysterectomy. Postpartum hysterectomies performed for gynaecological reasons were excluded from the study.

Study Procedure

Emergency Peripartum Hysterectomy: Hysterectomy conducted for bleeding resistant to other therapeutic measures at the time of caesarean section or vaginal delivery, or within 48 hours of puerperium, was classified as EPH [14].

The cause of the delay was recorded for every unbooked or referred case. Authors inspected the case files and the electronic medical records of the institution for patients who underwent EPH and noted previous antenatal visits, demographic variables such as age, parity, gestational age, planned or unplanned pregnancy status, reasons for the delay in seeking medical help, mode of delivery, and operative variables such as indication for EPH, type of uterine incision, intraoperative findings, blood loss, and need for blood transfusion. The information regarding the infant's live delivery, birth weight, neonatal Intensive Care Unit (ICU) admission, and period of separation from the baby was retrieved too. Their case files also contained information about their self-reported health issues due to traumatic birth (when they came for a follow-up visit at five weeks).

STATISTICAL ANALYSIS

All cases of EPH had baseline demographic data, intraoperative, and postoperative outcome variables recorded in a tabular format. Simple frequency, percentage and proportion were calculated using descriptive statistics. The data analysis was done in the month of March 2022.

RESULTS

A total number of 1827 deliveries were conducted in the time span from March 2020 and May 2021. Out them 11 cases underwent emergency peripartum hysterectomy at the institute during the time frame of the COVID-19 pandemic.

All of the patients were in the age range 21-34. All of these were unplanned and unbooked pregnancies and arrived at various gestational ages. Eight out of 11 cases (72.72 %) had the previous scarring on the uterus [Table/Fig-1].

The indications and intraoperative findings of EPH cases are shown in [Table/Fig-2]. General anaesthesia was used in all the cases. The central placenta praevia was present in cases 4, and 11.

Case 5 was referred with a breech presentation with posterior wall fibroid with hypothyroidism. There was a big posterior wall intramural

S. No.	Age (years)	GPAL status	Booking status	Pregnancy intention (planned or unplanned)	Associated co-morbidity	Gestational age on admission in the current pregnancy	Mode of delivery	Type of family (nuclear/joint)	Reasons for delay in seeking healthcare
1	25	P2L2 with previous one caesarean	Unbooked	Unplanned	Severe anaemia	38 weeks and 3 days	Caesarean	Nuclear	COVID-19 infection fear and transport problem
2	25	G2P1L1 previous one caesarean with placenta previa	Unbooked	Unplanned	Urinary bladder trauma	34 weeks	Caesarean	Nuclear	COVID-19 infection fear and transport problem
3	25	G4P1+2L0 previous one caesarean	Unbooked	Unplanned	Retroplacental clot with chorioamnionitis	37 weeks and 1 day	Caesarean	Nuclear	Referred with leaking per vagina and USG report of central placenta previa with COVID-19 positive status
4	26	G2P1L1 previous one vaginal delivery with central placenta previa	Unbooked	Unplanned	Active per vaginal bleeding	36 weeks and 2 days	Caesarean	Nuclear	Referred with central placenta previa with per vaginal bleeding
5	29	G1P0L0 with posterior wall fibroid with breech	Unbooked	Unplanned	Hypothyroidism	35 weeks and 3 days	Caesarean	Nuclear	Referred with a breech presentation with posterior wall fibroid with hypothyroidism
6	34	G3P2L1 previous one caesarean with placenta accreta	Unbooked	Unplanned	-	36 weeks	Caesarean	Nuclear	Referred with USG report of placenta accreta
7	22	P2L2 postcaesarean day one	Unbooked	Unplanned	-	36 weeks and 4 days	Caesarean	Nuclear	COVID-19 infection fear and transport problem
8	21	P3L3 post-caesarean day two with previous three caesarean with placenta accreta	Unbooked	Unplanned	Haemorrhagic shock	34 weeks and 2 days	Caesarean	Joint	Referred with USG report of placenta accreta with secondary pph with hemorrhagic shock with COVID-19 positive status

9	31	P2L2 postoperative day 0 with previous two caesareans with placenta accreta	Unbooked	Unplanned	Severe anaemia with shock	37 weeks and 1 day	Caesarean	Nuclear	Referred with USG diagnosis of placenta accreta with PPH with shock with severe anaemia
10	21	G3P2L2 with previous two normal delivery with obstructed labour with a ruptured uterus	Unbooked	Unplanned	-	37 weeks and 5 days	Rupture uterus so laparotomy done	Joint	Referred with obstructed labour with COVID-19 positive status
11	30	G4P2+1L1 previous two caesareans with central placenta previa	Unbooked	Unplanned	Rh-negative pregnancy with hypothyroidism	36 weeks and 1 day	Caesarean	Nuclear	Referred with USG report of central placenta previa with Rh-negative pregnancy with hypothyroidism with non availability of Rh-negative blood

[Table/Fig-1]: Demographic and baseline characteristics of study individuals.

GPAL: Gravida parity abortion live birth; USG: Ultrasonography; PPH: Postpartum haemorrhage

S. No.	Indication of EPH	Anaesthesia used	Uterine incision used in EPH	Intraoperative findings
1	Atonic PPH with severe anaemia	GA	Lower segment	Bladder densely adhere to lower uterine segment with tortuous vessels, Atonic PPH was present, placental beds bleeding despite stepwise devascularisation, subtotal hysterectomy was done, HPE placenta was normal with no invasion
2	Placenta previa with severe PPH	GA	Lower segment	Bladder adhere to the previous scar with placenta previa, urinary bladder injury was present which was repaired, HPE placenta was normal with no invasion
3	Massive retroplacental clot with chorioamnionitis with atonic PPH	GA	Lower segment	A big retroplacental clot approx 1.5 L with a tonic PPH in which the placental bed was bleeding despite stepwise devascularisation, HPE placenta was normal with no invasion.
4	Central placenta previa with placenta percreta	GA	Upper segment	Central placenta previa with placenta in creta present, bleeding present from lower segment stepwise devascularisation done, the uterus still flabby, hysterectomy done, HPE placenta in creta.
5	Posterior wall fibroid with atonic PPH	GA	Lower	Big posterior wall intramural fibroid approx 7x8 cm and atonic PPH was present, bleeding could not be controlled despite stepwise devascularisation, hysterectomy done, HPE placenta was normal with no invasion
6	Placenta accreta with PPH	GA	Lower	Placenta accreta was present with bladder adhere to previous scar torrential bleeding seen from the lower uterine segment for which hysterectomy was done, HPE placenta accreta
7	Placenta accreta with secondary PPH with haemorrhagic shock	GA	Laparotomy on postoperative day 0 of caesarean section	Previous scar gaped away, accreta suspected, placental bed bleeding despite stepwise devascularisation. torrential bleeding noted from the lower uterine segment for which total hysterectomy was done, HPE placenta accreta
8	Placenta accreta with secondary PPH with haemorrhagic shock	GA	Lower segment	Bladder pulled up and densely adhere to previous uterine scar, atonic PPH was present and uterus was flabby, stepwise devascularisation done, HPE placenta accreta
9	Placenta accreta with PPH with shock with severe anaemia	GA	Laparotomy on postoperative day 0 of caesarean section	Placenta accreta with atonic PPH was present with heavy bleeding from the placental bed, hysterectomy done, HPE placenta accreta
10	Ruptured uterus with atonic PPH	GA	Laparotomy on postoperative day 0 of caesarean section	Foetus was in peritoneal cavity with hemoperitoneum, foetus was attached with placenta via umbilical cord, placenta was in uterine cavity with rupture uterus from upper segment in J shape manner, uterus could not be repaired with torrential traumatic PPH- hysterectomy was done, HPE placenta was normal with no invasion
11	Central placenta previa with atonic PPH	GA	Upper segment	Central placenta previa with focal accreta in lower uterine segment, atonic PPH was present, stepwise devascularisation done- hysterectomy done, HPE focal placenta accreta.

[Table/Fig-2]: Indication, Type of anaesthesia used and intraoperative findings.

EPH: Emergency peripartum hysterectomy; PPH: Postpartum hysterectomy; GA: General anaesthesia; HPE: Histopathological examination

fibroid approximately the size of 7x8 cm with atonic Postpartum Haemorrhage (PPH). Bleeding could not be controlled despite stepwise devascularisation, so a hysterectomy was performed. Case 7 presented on postoperative day one with placenta accreta, postpartum haemorrhage and shock, as well as puerperal sepsis. Case 8 presented to us on postoperative day 2 with placenta accreta, postpartum haemorrhage, and shock with COVID-19 positive status. Total 72% of the cases (eight out of 11) were referred by local hospitals and district hospitals. Case 7 had a severe postpartum haemorrhage that, despite continual devascularisation, bleeding persisted, necessitating hysterectomy [Table/Fig-3]. Case 10 was referred with obstructed labour and COVID-19 positive status. She was diagnosed with a ruptured uterus with atonic PPH. A foetus was present in the peritoneal cavity with hemoperitoneum. The uterus was ruptured from the upper segment in J shaped manner, the foetus was attached to the placenta via umbilical cord, the placenta was in the uterine cavity, the uterus could not be repaired due to torrential traumatic PPH, hysterectomy was done.

[Table/Fig-4] shows that all of the patients required massive blood component transfusions both during and after surgery. The ICU care was required for five out of 11 patients (45.45%).



[Table/Fig-3]: Case-7 showing placenta accreta.

[Table/Fig-5] shows the features of the infants with the length of time they were separated from their mothers. Two neonates were found to be COVID-19 positive.

S. No.	Preoperative Hb status (gm/dL)	Blood loss (L)	Intraop transfusion	Postoperative transfusion	Postoperative Hb status (gm/dL)	Mother ICU stay (days)	Number of days on ventilator (days)
1	5.8	2.5	4PRBC+8FFP+4RDP	1PRBC+4FFP+2RDP	6.1	5 days; 3 days on ventilatory support followed by electrolytes and acidosis correction	3
2	9.2	2	2PRBC+4FFP	2PRBC+4FFP+4RDP	7.4	-	-
3	8	2	2PRBC+4FFP	3PRBC+8FFP+4RDP	8.9	2	1
4	8.4	3	2PRBC+8FFP	2PRBC+4FFP+2RDP	8.7	-	-
5	10	1	2PRBC+4 FFP	2PRBC+4FFP+4RDP	9.3	-	-
6	7.3	5	3PRBC+4FFP	2PRBC+4FFP+4RDP	8.8	1	-
7	6.8	1.5	3PRBC+4FFP	2PRBC+4FFP+4RDP	8.1	2	-
8	5.2	5	4 PRBC+4FFP+2RDP	3PRBC+8FFP+4RDP	8.6	-	-
9	4.6	5	4PRBC+4FFP+4RDP	3PRBC+4FFP+4RDP	7.9	5 days; 3 days on ventilatory support followed by electrolytes and metabolic acidosis correction	3
10	5.3	3	4PRBC+4 FFP+4RDP	3PRBC+4FFP+4RDP	Expired	-	-
11	10.7	1.5	3 PRBC+4FFP+2 RDP	2PRBC+4FFP+4RDP	10.7	-	-

[Table/Fig-4]: Perioperative management of patients with PPH.

Pre-op: Preoperative, Intraop: Intraoperative; Postop: Postoperative; ICU: Intensive care unit; PRBC: Packed red blood cell; FFP: Fresh frozen plasma; RDP: Random donor platelets

S. No.	Live birth (yes/no)	Birth weight (kg)	COVID-19 status of neonates	Malformations	NICU stay	Period of separation from mother (days)
1	Yes	2.8	-	-	Yes	1
2	Yes	1.8	-	-	Yes	3
3	Yes	2.6	Positive	-	Yes	2
4	Yes	2.3	-	-	Yes	1
5	No, (No sign of respiration in baby despite initial resuscitation)	1.75	-	Present	-	-
6	Yes	2.2	-	-	Yes	5
7	Yes	2.1	-	-	Yes, expired on day 3 due to birth asphyxia	-
8	Yes	1.8	Positive	-	Baby died within a half-hour of birth	-
9	Yes	2.72	-	-	Yes	2
10	No, (No sign of respiration in baby despite initial resuscitation)	2.3	-	-	-	-
11	Yes	2.32	-	-	Yes	3

[Table/Fig-5]: Neonatal outcome.

NICU: Neonatal intensive care unit

Their main issue was related to the health of the newborn [Table/Fig-6].

During their 5th week follow-up, all of these patients reported some issues related to physical health, psychological status, and social interaction associated with their earlier traumatic birth, as seen in [Table/Fig-7]. Guilt at the baby's death, tiredness, concerns about femininity and sexual health, and post-traumatic stress flashbacks to the ICU stay were all major concerns.

S. No.	The disquietude of mother
1	Her family COVID-19 status (the whole family become positive)
2	Her newborn baby and her husband health issue (became COVID-19 positive)
3	Her kids at home alone and uncertainty of the situation
4	Her kid at home became COVID-19 positive and lack of house help from relatives
5	Grief of her expired baby
6	Her husband's COVID-19 status (her husband become positive)
7	Grief of her expired baby and economic burden over her family
8	Grief of her expired baby
9	Grief of her expired baby
10	Maternal mortality
11	Her newborn baby

[Table/Fig-6]: Major disquietude of mother.

S. No.	Issues
1	Feeling unhappy, frustrated and having difficulty in sleeping, worried about the loss of femininity
2	Not emotionally attached to the newborn baby and reluctant to feed, feeling physically exhausted.
3	Sad thinking and miserable, lethargic, unable to take care of a newborn baby.
4	Felt stunned and dazed, sad and miserable, unable to get over the loss of femininity.
5	Feeling so unhappy and having difficulty sleeping, feeling sad for losing the baby.
6	Anxious and worried for no good reason, worried about family and feeling weak and sad.
7	Thought of harming herself, feeling scared and panicky, worried about future sexual life.
8	Feeling scared and panicky, flashbacks of the ICU stay, fear of death, emotionally labile, feeling weak and sad.
9	Scared and panicky flashback of ICU, fear of death, the guilt of losing a baby, worried about femininity.
10	Maternal mortality.
11	Flashbacks of ICU stay, the guilt of losing the baby, unhappy, difficulty in sleep, feeling sad and miserable, unable to get over the loss of femininity.

[Table/Fig-7]: Self-reported issues at 5 weeks visit related to health, psychological status and social interaction with earlier traumatic birth.

DISCUSSION

Emergency peripartum hysterectomy is a life-saving obstetric surgery performed as a last resort in an emergency to control intractable postpartum haemorrhage [20,21].

Due to the surgical intervention, extended intubation, organ dysfunction, massive blood loss, multiple blood transfusions, resuscitation, and ICU admission involved with EPH, it is characterised as severe maternal morbidity, or even near-miss maternal fatality [22].

Goyal M et al., looked at the impact of the COVID-19 pandemic on maternal health as a result of a delay in seeking medical help. During the pandemic, 32.5% of pregnant women received fewer prenatal visits, according to the researchers. The main reasons for the delay in seeking assistance were a rigorous lockdown that resulted in a shortage of mobility facilities (50.9%) and a fear of contracting COVID-19 (33.4%) [23].

In population-based research, Orbach A et al., found comparable rising trends in EPH [24]. Dimirci O et al., found 39 cases of EPH over a 9-year period at a tertiary obstetric centre. Of these, 34 were performed after caesarean section and five after vaginal birth [25]. With increased caesarean section rates, the incidence of adhered placentas, uterine rupture, and atonic postpartum haemorrhage is on the rise, resulting in an increase in EPH cases [26].

Though this may be avoided if detected early with doppler sonography and magnetic resonance imaging, hysterectomy is typically the only option when a woman arrives in labour.

The EPH is coupled with significant blood loss. The mean blood loss in the present study sample was 2.83 ± 1.34 mL, compared to 3467 ± 2110 mL in a study by Chibber R et al., [27]. Due to substantial blood loss, five ladies required critical care unit (ICU) support. In the present study, one of the women died, although Chibber R et al., found two maternal deaths [27].

In the present study, it was found that the main worries revolved around the newborn child's and husband's health. Ostacoli L et al., concluded in their study that the pregnant women who delivered during the COVID-19 pandemic had a significant rate of postpartum depression and Post-traumatic Stress Disorder (PTSD) [28]. The pregnancy experience and other individual characteristics were found to be more closely linked to postnatal psychological discomfort than previously thought. The ability to provide targeted preventive and therapeutic psychological therapies necessitates early identification of an insecure attachment style during pregnancy [29].

Such women's emotional health may be exacerbated by traumatic childbirth. Physical effort, loss of femininity, and remorse over the death of a child were the main issues in the present study group of nine EPH patients. Women rarely speak about their psychological health, particularly in rural areas, so healthcare practitioners typically overlook this element of postpartum care. By understanding the experience and consequences of EPH, healthcare practitioners can better comprehend the problems of these women and contribute to the fulfilling of the requirements of health. Herein lies the value and necessity of a prenatal psychiatric session for a mother who has experienced a traumatic birth [30].

Women who have survived EPH and other near-miss maternal events are considered as clinical triumphs, but many of them may have unmet mental health needs, because they have survived childbirth. The authors agrees with Tsuno K et al., that any woman who has had a traumatic childbirth should have a prophylactic psychological session as part of her postpartum follow-up visits and simply ensuring that women survive a near-miss event does not guarantee a positive clinical outcome, since many of these women may suffer in silence and anguish as a result of traumatic childbirth [31]. Clinical guidelines would include promoting proper healthcare, specialised treatment, and even screening tests to rule out the possibility of postpartum depression. This would aid in the early detection of women who are at risk of developing

postpartum depression, thus reducing the detrimental repercussions. By enhancing our understanding of postpartum requirements, we can address the unmet mental health issues of women having an emergency obstetric hysterectomy. Future studies are required to fill the information gap on EPH in terms of experience and its consequences.

Limitation(s)

To begin with, the study may have been improved if the authors had utilised a standard questionnaire to address post-traumatic stress disorder and depression, as well as identify patients at risk for stress and depression, but because it was a retrospective study, they were unable to do so, limited by data availability and a lack of long-term follow-up of patients who had EPH. Second, because EPH is a relatively uncommon procedure, the number of patients in the study was small. Furthermore, because the research was conducted in a hospital, it reflected the experience of a referral centre, and it is only applicable to our institution or similar contexts.

CONCLUSION(S)

The predominant cause of EPH in the study population was a grossly adherent placenta. All of the women in the present study cohort were unbooked. In women undergoing peripartum hysterectomy, authors discovered a higher frequency of prior caesarean, placenta praevia, and morbidly adherent placenta. Multiparous women who have had a previous or current caesarean delivery or have abnormal placentation are at the highest risk of needing an emergency hysterectomy. As a result, avoiding a primary caesarean section during the first pregnancy is critical in lowering the chance of peripartum hysterectomy. Early surgical intervention and prompt resuscitation in a well-equipped referral centre likely minimised morbidity and saved maternal death.

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