

EMERGENCY PERIPARTUM HYSTERECTOMY: A 5 YEAR RETROSPECTIVE ANALYSIS IN A PERIPHERAL MEDICAL COLLEGE IN EASTERN INDIA

Debjani Deb¹, Utpal Ghosh², Anirban Dasgupta³, Sumanta Kumar Mondal⁴, Subhendu Dasgupta⁵, Anindya Kumar Das⁶

HOW TO CITE THIS ARTICLE:

Debjani Deb, Utpal Ghosh, Anirban Dasgupta, Sumanta Kumar Mondal, Subhendu Dasgupta, Anindya Kumar Das. "Emergency peripartum hysterectomy: a 5 year retrospective analysis in a peripheral medical college in eastern India". Journal of Evolution of Medical and Dental Sciences 2013; Vol2, Issue 37, September 16; Page: 7069-7076.

ABSTRACT: OBJECTIVES: To determine the incidence, risk factors, outcome, complications and the changing trends of indications for Emergency Peripartum Hysterectomy (E.P.H.), and compare the results with other reports in the literature. **METHODS:** A population based 5 year retrospective study of 72 cases of emergency peripartum hysterectomy was carried out using hospital database from January 2008 to December 2012 in a peripheral medical college of Eastern India. **RESULTS:** A total of 72 EPH were performed among 94276 deliveries with an incidence of 0.76/1000 deliveries. The incidence was more among multiparous women (69%) and highest in the age group of 20 to 29 years (77.7%). Ruptured uterus was most common indication for Emergency Peripartum Hysterectomy (52.7%). Maternal mortality was 11.11% following peripartum hysterectomy. Our study in eastern India shows a statistically significant lower incidence of peripartum hysterectomy compared to that in other parts of India (0.076% versus 0.35% deliveries; P value <0.0101). **CONCLUSION:** Emergency Peripartum Hysterectomy is a life saving procedure and often puts the obstetrician in a dilemma for decision making. In this rural and backward area of Eastern India, primary and post CS deliveries are associated with an increased risk of Emergency Peripartum Hysterectomy. These results are of particular concern considering the steady rise in post CS pregnancy particularly in this backward region of our country.

KEYWORDS: Emergency peripartum hysterectomy, uterine rupture, post partum haemorrhage. EmOC

INTRODUCTION: Emergency peripartum hysterectomy is an uncommon obstetrics procedure, usually performed as a lifesaving measure in cases of intractable obstetric haemorrhage.⁽¹⁻³⁾ It was first proposed in 1869⁽⁴⁾ by Horatio Storer to reduce maternal mortality.

Emergency Peripartum hysterectomy (EPH) was defined as an emergency lifesaving procedure, where hysterectomy was performed at or after delivery⁽⁵⁾ during the same hospitalization.

Although the exact incidence of EPH is not known, several authors have reported widely varying rates of 0.004 to 1.5 per 1000 deliveries ⁽⁶⁾ depending on the facilities available at the peripheral medical centres. Severe PPH was reported to occur in 6.7 per 1000 deliveries worldwide. Rochat and colleagues reported an incidence of 11 % of maternal deaths resulting from haemorrhage⁽⁷⁾ and it is one of the leading causes of maternal mortality and morbidity representing the most challenging complication that an obstetrician will face.⁽⁸⁾

ORIGINAL ARTICLE

The present study was undertaken to evaluate the incidence, indications, risk factors, outcome and complications of peripartum hysterectomy done to reduce maternal mortality.

MATERIALS AND METHODS: This was a case series study. Medical records of the patients who had undergone EPH following vaginal delivery and caesarean section in between Jan 2008 to Dec 2012 in this medical college were reviewed retrospectively. Cases were ascertained via a review of hospital obstetrics database by checking the obstetric admission register, OT records, case records and mortality register. All deliveries were performed after 28 wk of gestation. Both medical and surgical measures were used for conservative management. The study was approved by the Institutional Ethical Committee.

Information obtained from the medical records include demographic details, risk factors, previous obstetrics history, current pregnancy and delivery detail, indication for EPH, outcome of hysterectomy and operative and postoperative complications, maternal morbidity and mortality. The data was analysed using Graph, Microsoft Excel, 2007. The comparison was done by Medcal software. P value < 0.05 is statistically significant.

RESULTS: During the 5 year study period following information were gathered.

Total no. deliveries	94276
Total NVD	62536
Total CS	20239
Others	9597
Total EPH	72
Incidence (BSMCH)	0.76/1000 deliveries

Table 1: Showing the incidence of Peripartum Hysterectomy(5 year)

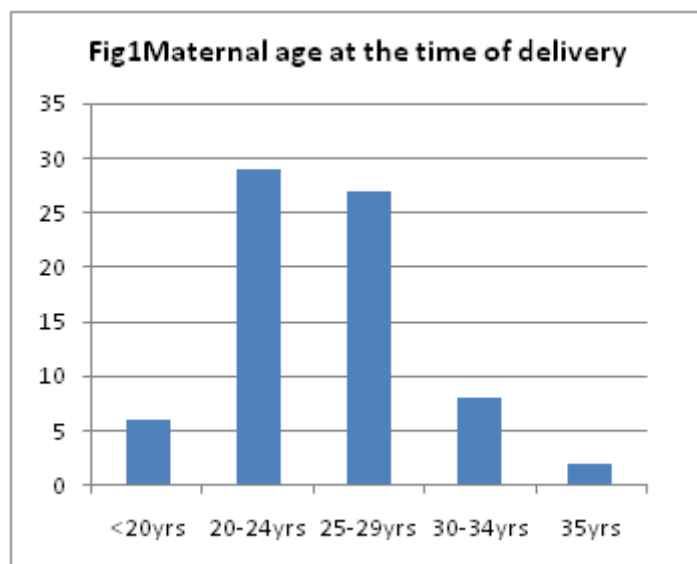


Fig 1: Age group of patients undergoing peripartum hysterectomy

ORIGINAL ARTICLE

Table 1 and Fig 1 show that there were 94276 deliveries over a 5 year period and 72 peripartum hysterectomies with an incidence of 0.76/1000 deliveries. Majority were multiparous and within the age group of 20-29 years.

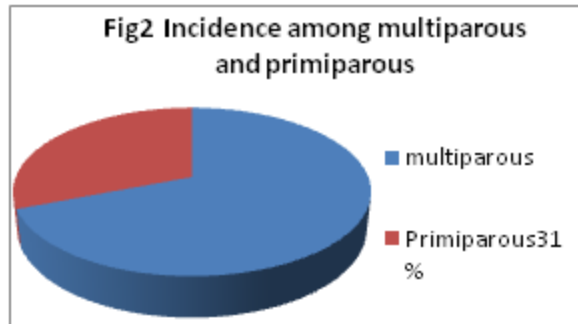


Fig. 2: Incidences among multiparous and primiparous

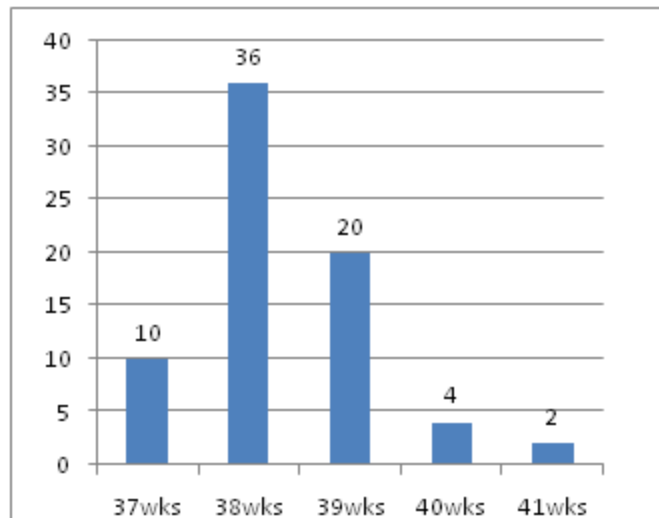


Fig. 3: Mean gestational age at delivery

Caesarean section	Normal delivery	Operative vaginal delivery
53	17	2

ORIGINAL ARTICLE

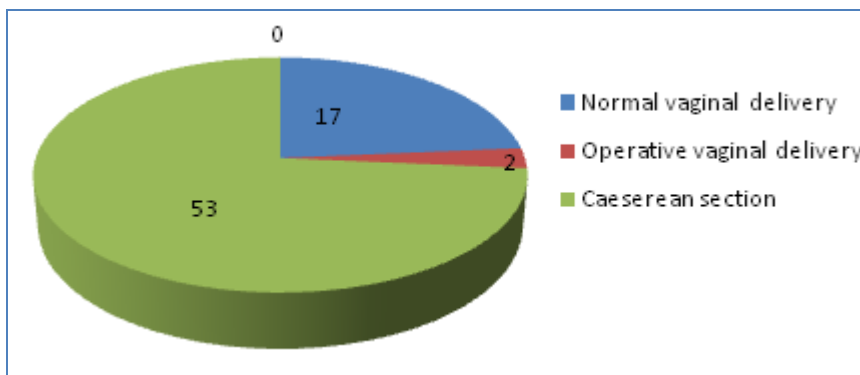


Fig 4: Mode of delivery: For cases who underwent Peripartum Hysterectomy

Fig 3 and Fig 4 shows the maximum no of deliveries at 38 wks of gestation and maximum number of patients who underwent peripartum hysterectomy was post CS cases.

Ruptured uterus	Uterine atony	Abnormal placentation	Others—Ut Inversion
38/72	20/72	11/72	03/72

Table 2 Indications for EPH

Table 2 shows uterine rupture as the most frequent indication of EPH followed by atonic uterus, abnormal placentation, and uterine inversion.

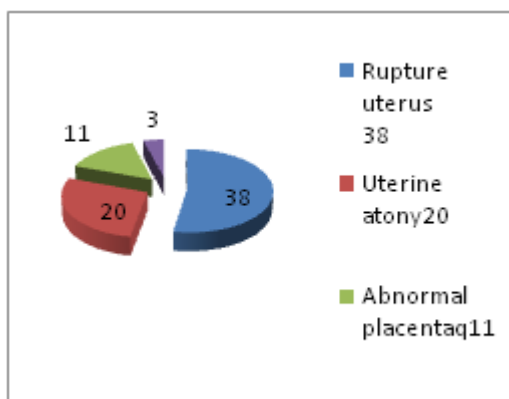


Fig 5: Mode of Delivery of cases who underwent EPS

Year	No of cases	No of deliveries	Incidence of EPH
2008	14	16695	0.8/1000 deliveries (0.08%)
2009	11	18431	0.59/1000 deliveries (0.059%)
2010	11	18799	0.58/1000 deliveries (0.058%)
2011	20	19941	1.00/1000 deliveries (0.100%)
2012	16	20410	0.78/1000 deliveries (0.07%)
2008-2012	72	94276	0.76/1000 deliveries (0.076%)

Table 3: Year wise distribution of number of cases and incidence of EPH

ORIGINAL ARTICLE

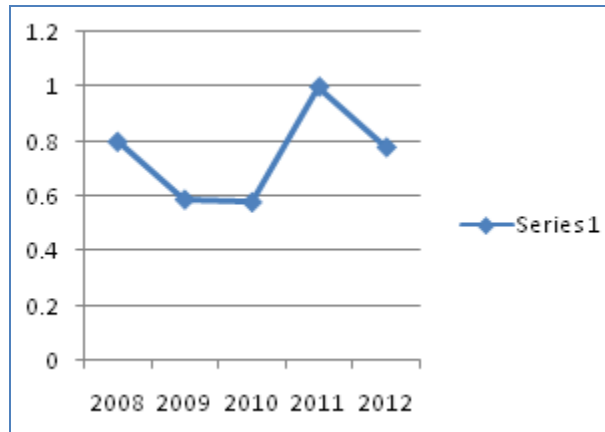


Fig 6: Incidence of EPH, year wise distribution

Table 3 and Fig 6 shows the incidence ranging from 0.8/1000 to 1.00/1000 over a 5 year period. Table 4 summarizes the maternal morbidity, mortality and the post operative complications following peripartum hysterectomy.

Re-laparotomy for hemoperitoneum	5
DIC	6
Acute renal failure	4
Infection	5
ITU admission	20
Maternal death	8

Table 4: Maternal morbidity, postoperative complications and maternal mortality.

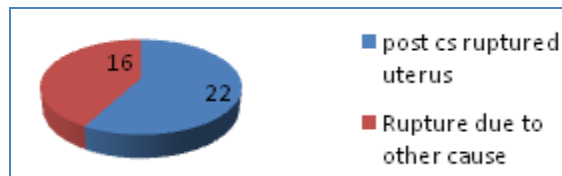


Fig 7: Causes of ruptured uterus

Authors	Praneshwari Devi et al 2004	Marwaha et al 2008	Sahasrabojanee et al 2008	Kumari et al 2009	Present study 2008-2012
Incidence	0.07%	0.31%	0.35%	0.73%	0.076%
Rupture uterus	23%	60%	26.6%	75%	52.7%
Atonic placenta PPH	19.20%	10%	33.3%	8.03%	27.7%
Abnormal placentation	26.9%	20%	10%	8.03%	15.2%

Table 5: Comparative study of peripartum hysterectomy at BSMCH (5 year study)

ORIGINAL ARTICLE

DISCUSSION: Despite advances in the medical and surgical technique, PPH remains one of the leading causes of maternal mortality and morbidity. PEH is performed in life threatening obstetrical haemorrhage, that could not be controlled by conventional methods. Obstetric hysterectomy often puts the surgeon in a dilemma as the maternal reproductive capability is sacrificed to save the mother's life.

Although the exact incidence of EPH is not known, several authors have reported widely varying rate of 0.004 to 1.5 thousand deliveries(6.) Praneshwari Devi⁹ reported an incidence of (0.7/1000) deliveries which is consistent with our study (0.76) /1000 deliveries. Marwaha et al¹⁰, Sahasrabojane et al¹¹, Kumari et al¹², Zeteroglu et al¹³, reported an incidence of 3.1/1000, 3.5/1000, 7. 3/1000 and 5/1000 deliveries respectively, which is higher than our study. In our series majority of patients who have undergone EPH were in the group of ≥ 25 yrs and were multipara. Similar trend was observed by Amad and Mir⁵ and Barclay et al⁶

In our study most of the patients upon whom EPH was performed were post CS pregnancy with the most frequent indication of EPH in the present study being uterine rupture(52.7%), followed by atonic uterus(27.7%), abnormal placentation, uterine inversion and others.

Other risk factors for EPH were increased age, multiparty, uterine atony, abnormal placentation, obstructed labour, current caesarean delivery and were similar to the literature^(2,14,15-,16,17,-18,19). Abnormal placentation is higher in post CS pregnancy compare to normal pregnancy. A single CS increase the risk of placenta praevia by 0.65%, two CS increase the risk by 1.5%(9) There has been a significant change in indication of EPH over time and from one region to other region. But the recent studies in the the US⁽²⁰⁾ show abnormal placentation is the most common cause of EPH.

But in our institution, ruptured uterus is still the most common cause of EPH and most of the rupture occurred in post CS pregnancy. As the number of post CS pregnancy is gradually rising, the complication and incidence of EPH is also on the rise. The most severe complication of haemorrhage in pregnancy is maternal death .In developing country the risk is as high as 1 in 1000 deliveries. Other complications includes shock, DIC, renal failure, ARDS, infection, transfusion related complications.^(19,21) In this study the maternal mortality was 11.11%. Marwaha reported a mortality of 12.2% whereas P. Devi et al reported no mortality at all. The critical condition of the mother is responsible for the mortality and morbidity.

Our study in eastern India shows a statistically significant lower incidence of peripartum hysterectomy compared to other parts of India (0.076% versus 0.35% deliveries; P value <0.0101)

This institute serves a very large rural and backward geographical area in Eastern India with poor communication. Due to inadequate health facilities, poor referral systems and inadequate knowledge about the high risk pregnancy we receive these cases in very grave condition. Transport facilities are inadequate as well .

CONCLUSION: In developing countries, the obstetrician will continue to encounter this unfortunate event of EPH in their day to day life but the incidence can definitely be decreased by upgrading the infrastructure, regular antenatal check up ,timely referral of high risk cases, continuous upgradation of knowledge and skills, and managing these cases through various programmes such as EMOC, upgrading socioeconomic status and health education .

ORIGINAL ARTICLE

REFERENCES:

1. Rossi AC, Lee RH, Chmait RH. Emergency postpartum hysterectomy for uncontrolled postpartum bleeding: a systematic review. *Obstetrics and Gynecology* 2010; vol. 115, no. 3: pg. 637–644.
2. Kwee A, Bots ML, Visser GHA, Bruinse HW. Emergency peripartum hysterectomy: a prospective study in the Netherlands. *European Journal of Obstetrics Gynecology and Reproductive Biology* 2006; vol. 124, no. 2: pg. 187–192.
3. Akar ME, Yilmaz E S, Yuksel B, Yilmaz Z. Peripartum hysterectomy. *European Journal of Obstetrics, Gynecology and Reproductive Biology* 2004; vol. 113, no. 2: pg. 178–181.
4. Daskalakis G, Anastasakis E, Papantoniou N, Mesogitis S, Theodora M, Antsaklis A. Emergency obstetric hysterectomy. *Acta Obstetricia et Gynecologica Scandinavica* 2007; vol.86, no. 2: pg. 223–227.
5. Amad SN and Mir IH. Emergency peripartum hysterectomy: experience at Apex Hospital of Kashmir Valley. *Internet Journal of Gynecology & Obstetrics* 2007; vol. 8, no. 2: <http://www.ispub.com/journal/the-internet-journal-of-gynecology-and-obstetrics/volume-8-number-2/article/emergency-peripartum-hysterectomy-experience-at-apex-hospital-of-kashmir-valley.html>.
6. Graves CR. *Obstetric Problems*. In: Rock JA, Jones III HW, editors, *Telinde's Operative Gynaecology*, 10th edition, chapter 35A. Philadelphia (PA): Lippincott-Williams & Wilkins; 2003; Pg 831.
7. Graves CR. *Obstetric Problems*. In: Rock JA, Jones III HW, editors, *Telinde's Operative Gynaecology*, 10th edition, chapter 35A. Philadelphia (PA): Lippincott-Williams & Wilkins; 2003, pg 826.
8. Sakse A, Weber T, Nickelsen C, Secher NJ. Peripartum hysterectomy in Denmark 1995–2004. *Acta Obstetrica et Gynecologica Scandinavica* 2007; vol. 86, no. 12, pg. 1472–1475.
9. Praneshwari Devi RK, Singh NN, Singh TD. Emergency Obstetric hysterectomy. *J Obstet Gynaecol India* 2004; 54:127-9.
10. Marwaha P, Kaur M, Gupta A. Peripartum Hysterectomy: A 5 Year Study. *J Obstet Gynaecol India* 2008; 58: 504-6.
11. Sahasrabojanee M, Jindal M, Kamat A. Obstetric Hysterectomy: a life saving procedure. *J Obstet Gynaecol India* 2008; 58:138-141.
12. Kumari A, Sahay PB. A Clinical Review of emergency obstetric hysterectomy. *J Obstet Gynaecol India* 2009; 59:427-1.
13. Zeteroglu S, Ustun Y, Engin-Ustun Y, Sahin G, Kamaci M, Peripartum hysterectomy in a teaching hospital in the eastern region of Turkey. *European Journal of Obstetrics Gynecology and Reproductive Biology* 2005; vol. 120, no. 1, pp. 57–62.
14. Bakshi S, Meyer BA. Indications for and outcomes of emergency peripartum hysterectomy: a five-year review. *Journal of Reproductive Medicine for the Obstetrician and Gynecologist* 2000; vol. 45, no. 9, pp. 733–737.
15. Baskett TF, Emergency obstetric hysterectomy. *Journal of Obstetrics and Gynaecology* 2003; vol. 23, no. 4: pp. 353–355.

ORIGINAL ARTICLE

16. Selo-Ojeme DO, Bhattacharjee P, Izuwa-Njoku NF, Kadir RA. Emergency peripartum hysterectomy in a tertiary London hospital. Archives of Gynecology and Obstetrics 2005 vol.271, no. 2: pp. 154–159.
17. Kayabasoglu F, Guzin K, Aydogdu S, Sezginsoy S, Turkgeldi L, Gunduz G. Emergency peripartum hysterectomy in a tertiary Istanbul hospital. Archives of Gynecology and Obstetrics 2008; vol. 278, no. 3: pp. 251–256.
18. Wu S, Kocherginsky M, Hibbard JU. Abnormal placentation: twenty-year analysis. American Journal of Obstetrics and Gynecology 2005; vol. 192, no. 5, pp. 1458–1461.
19. Graves CR., Obstetric Problems. In: Rock JA, Jones III HW, editors, Telinde's Operative Gynaecology, 10th edition, chapter 35A, Philadelphia (PA): Lippincott-Williams & Wilkins; 2003; Pg 831. Telinde's operative gynaecology. 10th edition. Chapter 35A. page 832.
20. Zelop CM, Harlow BL, Frigoletto FD, et al. Emergency peripartum hysterectomy. Am J Obstet Gynecol 1993; 168:1443.
21. Mousa HA, Walkinshaw S, Major postpartum haemorrhage. Current Opinion in Obstetrics and Gynecology 2001; vol. 13, no. 6: pp. 595–603.

AUTHORS:

1. Debjani Deb
2. Utpal Ghosh
3. Anirban Dasgupta
4. Sumanta Kumar Mondal
5. Subhendu Dasgupta
6. Anindya Kumar Das

PARTICULARS OF CONTRIBUTORS:

1. Assistant Professor, Department of Obstetrics and Gynecology, Bankura Sammilani Medical College, West-Bengal, India.
2. Post Graduate Trainee, Department of Obstetrics and Gynecology, Bankura Sammilani Medical College, West-Bengal, India.
3. Senior Resident, Department of Obstetrics and Gynecology, JIPMER.
4. RMO Cum Clinical Tutor, Department of Obstetrics and Gynecology, Bankura Sammilani Medical College, West-Bengal, India.

4. Professor and HOD, Department of Obstetrics and Gynecology, Bankura Sammilani Medical College, West-Bengal, India.
5. Professor, Department of Obstetrics and Gynecology, Bankura Sammilani Medical College West-Bengal, India.

NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Debjani Deb,
Nirmaldanga,
Bankura, PIN – 722101, W.B.
Email- debjani163@gmail.com

Date of Submission: 29/08/2013.
Date of Peer Review: 30/08/2013.
Date of Acceptance: 04/09/2013.
Date of Publishing: 10/09/2013