Emergency obstetric hysterectomy: A study from a tertiary teaching hospital

Alka Dani¹, Himgauri B Sabnis^{2*}, Saloni Patil³, Deepika Gulati⁴

¹Associate Professor, ²Assistant Professor, ^{3,4}Resident, Department of Gynaecology, Dr D Y Patil Medical College, Nerul, Navi Mumbai. **Email:** <u>gbsabnis@googlemail.com</u>

<u>Abstract</u>

Background: To determine the incidence, risk factors, indications and complications of EOH at tertiary level teaching hospital. **Methods:** This is a prospective on retrospective study over a span of 2 years from 2017 to 2019 in the department of Obstetrics and Gynaecology at a teaching institution, Dr D Y Patil hospital, Navi Mumbai. All patients undergoing or undergone EOH were included in the study. Data was collected from the medical records, operation theatre and labour room records in a predesigned proforma and analysed. **Results**: Out of the 7330 from June 2017 to Sep 2019, in the period of study, there were 13 Emergency Obstetric Hysterectomy (EOH) performed which gives the incidence of 1.7 per 1000 deliveries or 0.17%. Majority of the women belonged to the age group 26-30 years and mean age was 26.3 years. More than 80% were multipara. The main mode of delivery was lower segment caesarean section, done both in emergency and elective scenarios.7 out of 13 cases of EOH, placenta previa was the risk factor with 5/13 having morbidly adherent placenta. All these cases had previous LSCS as a risk factor. Morbidity included sepsis, coagulopathy and atonic PPH. **Conclusion:** Morbidly adherent placenta and placenta previa were the main reasons for EOH followed by uterine atony. **Key words**: Emergency Obstetric Hysterectomy, adherent placenta, atonic uterus, sepsis, scar dehiscence/rupture.

*Address for Correspondence:

Dr Himgauri B Sabnis, Assistant Professor, Department of Gynaecology, Dr D Y Patil Medical College, Nerul, Navi Mumbai, INDIA. **Email:** <u>gbsabnis@googlemail.com</u>





INTRODUCTION

- Emergency obstetric hysterectomy is classified as a near miss event. It differs in different part of the world ranging from 1
- in 1420 deliveries in Australiaⁱ to 1 in 348 deliveries in Nigeria.ⁱⁱ

Definition:

- OH is a emergency surgery of removal of uterus with or without cervix post vagina delivery or cesarean section or during
- puerperal period as life saving procedure. Incidence: Worldwide incidence of OH ranges from 0.64 to 5.09 per 1000 deliveries ⁱⁱⁱ, ^{iv}, ^v</sup>

History:

- First emergency cesarean hysterectomy was done by Horatio in 1869 without result. But first successful obstetric
- hysterectomy was published by Edward Porro in 1876 in a 15 year old primiparous dwarf. ^{vi} As per the latest data published
- by UNICEF in September 2019, haemorrhage is the leading cause of maternal mortality which accounted for 27% of the

deaths. ^{vii} Indications:

In developing countries the most common indication is intractable postpartum hemorrhage which does not respond to conservative measures. Other indications are rupture uterus, septicemia, placenta previa and accreta. viii ix x

Predisposing factors

- Common risk factors for peripatum hysterectomy include uterine atony, placentation, retained products of conception,
- multiparity, multifetal gestation, macrosomia, precipitate or prolonged labour, maternal obesity and coagulopathies.^{xi},^{xii}

How to cite this article: Alka Dani, Himgauri B Sabnis, Saloni Patil, Deepika Gulati. Emergency obstetric hysterectomy: A study from a tertiary teaching hospital. *MedPulse International Journal of Gynaecology*. February 2020; 13(2): 43-47. http://medpulse.in/Gynaecology/index.php

Conservative measures to stem bleeding should be tried before considering peripartum hysterectomy. Various measures include uterotonic drugs (oxytocin infusion, ergometine derivatives, PGF2 alpha, Misoprostol) . Surgical methods include uterine artery ligation, Hypogastric artery embolization, hemostatic B lynch and Anand sutures and internal iliac ligation. xiii, xiv Surgical method of emergency cesarean hysterectomy can be total hysterectomy or subtotal hysterectomy. Advantages of subtotal hysterectomy are, lesser blood loss, reduced need for blood transfusion and lesser intra and post of complications.xv But it may not be effective in case of bleeding from lower uterine segment as chances of bleeding or discharge from decidual stump and potential risk of developing cancer cervix and need for regular screening test for cancer cervix is needed in subtotal hysterectomy. Total hysterectomy is preferred in case of

RESULTS

bleeding from lower uterine segment. Total or subtotal hysterectomy are associated with high mortality.^{xvi}

MATERIAL AND METHODS

This is a prospective on retrospective study over a span of 2 years from 2017 to 2019 in the department of Obstetrics and Gynaecology at a teaching institution, Dr D Y Patil hospital, Navi Mumbai. All cases who have undergone Obstetric hysterectomy for any indication including both elective and emergency hysterectomy are included in this study. Data was collected from hospital files and operation theatre records and analysed for maternal and perinatal parameters. Ethical committee approval was taken. Data was entered into a pre designed proforma and simple descriptive SPSS statistics applied.

		Age			
	20-25	26-30	>35		
	1	9	1	1	
	7.6%	69.2%	7.6%	7.6%	
, '	1 1 1 1	1 96 90	1.1		-

Majority of the women, around 69%, belonged in the 26 to 30 year old age group. The youngest women who was 20 year old. The oldest woman was 32 year old. The mean age at presentation was 26.3 years.

1.0	Parity	
Parity	Number of patients	Percentage
Primiparou	us 2	15.3%
Multiparou	us 11	84.6%
non undomuont ob	statija hustanaatamuu Mai	amity of aggag in multime

15.3% of primiparous women underwent obstetric hysterectomy. Majority of cases in multiparous group i.e 84.6 percent.

	Gestational age			
	G.age	< 37 weeks	Term	
	Number	2	11	
	Percentage	15.3%	84.6%	
Majority women i.e 84.6% were	at term. The other	2 patients, were 13	weeks and 22 w	eeks of gestation respectively.
		Mada of dolivour		

widde of delivery				
Vaginal delivery	LSCS Elective	Emergency	D and C	Hysterotomy
1	6	4	1	1
7.69%	46.1%	30.7%	7.69%	7.69%

Incidence rate was more after LSCS as majority of women, nearly 77% of the women were delivered by Lower Segment Cesarean Section. 1 each had a vaginal delivery and hysterotomy respectively. In our study, one women had undergone Dilatation and Curettage for incomplete miscarriage which was complicated by severe haemorrhage and ended up in obstetric hysterectomy.

Indications				
Indications Number of patients P				
7	53.8%			
5	38.5%			
6	46.1%			
4	30.7%			
	Number of patients 7 5 6 4	Number of patients Percentage 7 53.8% 5 38.5% 6 46.1% 4 30.7%		

Most common indication for EOH was placenta previa (53.8%), followed by atonic uterus in 46%, placenta previa with accreta in 38% and sepsis with scar rupture in 30% 7 (53.8%) out of 13 cases of obstetric hysterectomy had placenta previa of which 5 had morbidly adherant placenta. All these cases had previous LSCS as a risk factor.

Risk factors				
Risk factor	Numbers	Percentage		
Previous LSCS	9	69.2%		
PIH, Preeclampsia, Eclampsia	1	7.69%		
Sepsis	2	15.38%		
GDM	2	15.38%		
Multiple pregnancy	1	7.69%		
IVF	1	7.69%		
IUFD	2	15.38%		
APH	7	53.84%		
Hypothyroidism	1	7.69%		

Commonest associated risk factor was previous LSC	S present in 69%.	Others were APH (5	53%), multiparity, (GDM, sepsis,
IUFD, multiple pregnancy, Preeclampsia and Eclamp	osia.			

Complications				
Sepsis	2	15.38%		
Blood transfusion	13	100%		
Bladder injury	1	7.69%		
Mortality	2	15.38%		
Lung collapse	1	7.69%		
Coagulopathy	1	7.69%		

Increased morbidity in terms of ICU admissions, blood and blood product transfusion(100%), sepsis (15.3%), matrnal mortality (15%), lung collapse (7.6%) and DIC (7.6%)

DISCUSSION

The average number of deliveries in our tertiary care teaching hospital is around 2000-4000 deliveries per vear.(7330 from June 2017 to Sep 2019) In the period of study, there were 13 Emergency Obstetric Hysterectomy (EOH) were performed which gives the incidence of 1.7 per 1000 deliveries or 0.17%. This rate is more or less similar to that published in different studies which ranges from 0.03 to 0.33^{xvii}, ^{xviii} an countries in the past i.e in China (0.22%),^{xix} Pakistan (0.27%)^{xx}. This rate is high compared to the developed countries as in US (0.06%)xxixxii. This can be attributed to factors like availability of facilities and expertise, access, progress in the field of Medical science, difference in Obstetric practice around different nation's, population and socioeconomic and demographic parameters. Also our department follows the Universal and National guidelines for management of PPH. In ancient times, traditionally, Cesarean hysterectomy was reserved as elective procedure for the management of pathology like cervical intraepithelial neoplasia (CIN), or was done as drastic operation for sterilization. In emergency, it was

used to control intractable, life threatening hemorrhage. With changes in practice and drift towards modern evidence, the former two indications have lost relevance as indication. But, there has rise in cases of postpartum hemorrhage requiring hysterectomy xxiii primarily due to the altered circumstances in which postpartum hemorrhage presents itself today in modern day Obstetrics. Despite wider use and easy to contraceptives and early pregnancy termination services and the trend for small size families, the world over, there has been a consistent rise in the rates of cesarean section attributable, in part, to patient preferences and medicolegal implications on medical fraternity. Additionally, advances in anesthesia, blood bank facilities, and intensive care back-up have made it a safer and painless alternative to labor. This has not only given rise to a surge in complications like abnormal placentation and uterine rupture, but also in the incidence of atonic postpartum hemorrhage. This is why EOH has become increasingly relevant in modern obstetric practice. In our study, the most common cause for EOH was abnormal placentation with morbidly adherant placenta which was predominant indication in more than 60% cases followed by uterine atony in around 45% of the cases. This is interesting observation due to the increase in the LSCS rates. This when compared to the studies in the past, where uterine atony was the most common cause for EOH as published in Varras and Rabiou et Al^{xxiv}, xxv. Other study by Saeed and Khalid et al^{xxvi} in private hospital reported morbidly adherant placenta as a common cause of EOH. Thus identification of an adherent in antenatal period using ultrasound doppler and MRI is therefore recommended. It has been noted that rates of EOH due to uterine atony has decreased due to advances in science, common use of B Lynch and balloon tamponade. As is routinely observed, OH was more common in multiparous women, around 80%. Incidence rate was more following caesarian section (than Vaginal delivery or D and C and Hysterotomy. The most common associated risk factor was previous caesarean section (more than 60% of the cases), other risk factors were Antepartum Haemorrhage, multiparity, GDM, sepsis and IUFD and IVF, multiple Preeclampsia pregnancy and Eclampsia and hypothyroidism. Korejo et al from Pakistan reported 47% cases from uterine rupture, 28% from uterine atony and 17% from placental causes.xxvii

Increased morbidity in terms of ICU admission, blood and blood products transfusion and prolonged stay in hospital were present in all 100% of patients. Only 2(15.38%) mortality were there. In cases of PPH, timely and effective intervention for management is very important and proves to be lifesaving. This significantly reduces the morbidity and mortality associated with PPH. Thus the recent recommendations are multidisciplinary team approach including surgeons, anesthetists, interventional radiologists, midwives, nurses and the blood blank services to be involved in the management of such patients. Thus there is considerable maternal morbidity and mortality associated with the procedure but it is a life saving procedure in cases of intractable haemorrhage.

CONCLUSION

Thus adherent placenta and uterine atony are the most common indications for Emergency Obstetric hysterectomy. It is recommended that the former should be diagnosed by imaging in antenatal period and elective surgery should be planned. Another recommendation would be to liase with Radiology colleagues for intervention radiology services in all tertiary care facilities in order to avoid obstetric hysterectomies.

REFERENCES

- 1. Hill DJ, Beisher NA. Hysterectomy in obstetric practice. Aust N Z J Obstet Gynaecol 1980; 20: 151-3
- 2. Osefo NJ. Caesarian and postpartum hysterectomy in Enugu, 1973–1986. Int J Gynecol Obstet 1989; 30: 93–7
- 3. Kayabasoglu F, Guzin K, Aydogdu S, Sezginsoy S, Turkgeldi L, Gunduz G. Emergency peripartum hysterectomy in a tertiary Istanbul hospital. Arch Gynecol Obstet. 2008;278(3):251–256. doi:10.1007/s00404-007-0551-x
- 4. Rahman J, Al-Ali M, Qutub HO, Al-Suleiman SS, Al-Jama FE, Rahman MS. Emergency obstetric hysterectomy in a university hospital:A 25-year review. J Obstet Gynaecol. 2008;28(1):69–72. doi:10.1080/01443610701816885.
- Zeteroglu S, Ustun Y, Engin-Ustun Y, Sahin G, Kamaci M. Peripartum hysterectomy in a teaching hospital in the eastern region of Turkey. Eur J Obstet Gynecol Reprod Biol. 2005;120(1):57–62.
- 6. Larry C, Gilstrap F, 3rd, Cunningham G, Vandorten JP, Obstetric Hysterectomy, Operative Obstetrics, 2nd edition, New York, 1995:275-91
- 7. UNICEF official website
- 8. Korejo R, Bhutta s, Nasir A, Yasmin H, Emergency obstetric hysterectomy , JPMA, Dec 2012:62:1322-25
- 9. Najam R, Bansal P, Sharma R, Agrawal D. Emergency Obstetric Hysterectomy: A retrospective study at a tertiary care hospital. Journal of Clinical and Diagnostic Research 2010;4:2864-2868
- 10. Zelop CM, Harlow BL, Frigoletto FD, Safon LE, Saltzman Dh. Emergency peripartum hysterectomy. Am J Obstet Gynecol 1993; 168:1443-1445.
- 11. Bakshi S, Meyer BA. Indications for and outcomes of emergency peripartum hysterectomy. A 5-year review. J Reprod Med 2000;45:733-
- 12. Francois K, Ortiz J, Harris C, Foley MR, Elliott JP. Is peripartum hysterectomy more common in multiple gestations? Obstet Gynaecol 2005;105:1369-72.
- 13. Saeed F, Khalid R, Khan A, Masheer S, Rizvi JH. Peripartum hysterectomy:a ten-year experience at a tertiary care hospital in a developing country. Trop Doc. 2010;40(1):18–21. doi:10.1258/td.2009.080245.
- 14. Nisar N, Sohoo NA. Emergency peripartum hysterectomy: frequency, indications and maternal outcome. J Ayub Med Coll Abbottabad. 2009;21(1):48-51
- 15. Chanrachakul B, Chaturachinda K, Phuspradit W, Roungsipragarn R, Caesarean and post partum hysterecyomy, Int. J Gynecol Obstet. 1996: 54(2):109-113
- 16. Engelsen IB, Albrechtsen S, Iverson OE, Peripartum hysterectomy- incidence, and maternal morbidity, Acta Obstet Gynecol Scand 2001: 21: 121-23

- 17. Clark SL, Yeh SY, Phelan JP, Bruce S, Paul RH. Emergency hysterectomy for Obstetric haemorrhage, Obstet Gynaecol. 1984;64: 376-80
- 18. Eltabbakh GH, Watson JD, Postpartum hysterectomy, Int J Gynaecol Obstet1995;50:257-62
- Emergency Peripartum Hysterectomy as Postpartum Hemorrhage Treatment: Incidence, Risk factors, and Complications. Pradhan M, Shao YJNMA J Nepal Med Assoc. 2014 Jan-Mar; 52(193):668-76.
- 20. As 8 above
- 21. Rahman J, Al-Ali M, Qutub HO, Al-Suleiman SS, Al-Jama FE, Rahman MS. Emergency obstetric hysterectomy in a university hospital: A 25-year review. J Obstet Gynaecol. 2008;28(1):69–72.
- 22. Bodelon C, Bernabe Ortiz A, Schiff M A, Reed SD. Factors associated with peripartum hysterectomy . Obstet Gynecol 2009 Jul; 114(1): 115-123
- 23. Joseph KS, Rouleau J, Kramer MS, Young DC, Liston RM, Baskett TF, Maternal Health Study Group of the Canadian Perinatal Surveillance System . Investigation of an increase in postpartum haemorrhage in Canada. BJOG 2007. Jun;114(6):751-759
- 24. Varras M, Krivis C, Plis C, Tsoukalos G. Emergency obstetric hysterectomy at two tertiary centers:a clinical analysis of 11 years'experience. Clin Exp Obstet Gynecol. 2010;37(2):117–119.
- 25. Rabiu KA, Akinlusi FM, Adewunmi AA, Akinola OI. Emergency peripartum hysterectomy in a tertiary hospital in Lagos, Nigeria:a five-year review. Trop Doct. 2010;40(1):1–4
- 26. Saeed F, Khalid R, Khan A, Masheer S, Rizvi JH. Peripartum hysterectomy:a ten-year experience at a tertiary care hospital in a developing country. Trop Doc. 2010;40(1):18–21.

