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Original Research Article

Review of emergency obstetric hysterectomies at a tertiary care hospital

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ABSTRACT

Background: Emergency obstetric hysterectomy refers to surgical removal of pregnant or recently pregnant uterus with the pregnancy in utero or due to complications of delivery. This surgery is usually done as a last resort in life threatening obstetric hemorrhage. Objective of present study was to determine the incidence, sociodemographic and obstetric factors and indications associated with emergency obstetric hysterectomies.

Methods: A retrospective, analytical study was conducted over a period of five years in the department of obstetrics and Gynecology of Government Medical college Thiruvananthapuram, Kerala. All cases of obstetric hysterectomy done during the study period in this hospital were analysed after getting approval from the institutional ethical committee.

Results: During the study period there were total number of 78613 deliveries in SATH. Emergency obstetric hysterectomy was done for 86 cases. Obstetric hysterectomy rate in SATH during the study period was 0.109% or 1.09/1000 deliveries. Atonic postpartum hemorrhage (55%) was the most common indication followed by placenta praevia (27%). Majority were referred cases.

Conclusions: Emergency obstetric hysterectomy can be a lifesaving procedure when other medical and surgical methods fail to control obstetric hemorrhage. This study highlights the unpredictable need of this procedure, need for identifying the at-risk cases and early referral to higher center.

Keywords: Atonic postpartum hemorrhage, Caesarean section, Emergency obstetric hysterectomy, Placenta previa

INTRODUCTION

Emergency obstetric hysterectomy (EOH) is defined as surgical removal of pregnant uterus with baby in situ or during caesarean or following normal delivery or during puerperium. It is often performed in the face of life-threatening obstetric hemorrhage that fails to be controlled by other medical methods.¹ The unpredictable need for this life saving procedure often puts the surgeon in dilemma especially in low resource settings. Delay in decision making can lead to maternal mortality and a hasty decision produces undue morbidity. Many conservative methods like uterotonic drugs, condom tamponade and anti-shock garments are advocated prior to referral of patients to higher centers. Timely and effective referral goes a long way in reducing morbidity and mortality. Increasing

caesarean sections and assisted reproductive technology are likely to increase the incidence of obstetric hysterectomies.²

METHODS

This was a hospital based retrospective analysis of 86 cases of emergency obstetric hysterectomies done over a period of 5 years conducted in the department of obstetrics and gynecology Government Medical College Thiruvananthapuram.

Inclusion criteria

Women who underwent hysterectomy for any indication during pregnancy, labour and puerperium during the study

period were included. Post normal delivery and cesarean section were included. Women referred from other hospitals were also included.

Case records were retrieved analysed in detail regarding indications, maternal sociodemographic data, referring process and type of operation conducted.

Statistical analysis

Data collected was entered into Microsoft excel worksheet and analysed using SPSS version 20.0 software.

RESULTS

Incidence

There were 86 cases of obstetric hysterectomies among 78613 deliveries during the study period giving incidence of 0.109% or 1.09 per 1000 deliveries.

Table 1: Booking status.

Type of admission	Number	Percentage
Booked	37	43.02
Un booked	2	2.3
Booked outside	47	54.65

Of the emergency obstetric hysterectomy cases 37 (43.02%) were booked here itself, 2 were unbooked (2.3%) and 47 (54.65%) were booked outside. This brings out the fact that many of the peripheral centres lack the facilities to perform this procedure.

49 cases were referred from peripheral hospitals. Of these 35 (71.4%) were referred from government FRUs and 14 (28.57%) were from private practitioners.

Table 2: Referral status.

Status	Number	Percentage
Antenatal	15	30.6
Intrapartum	2	04.08
After vaginal delivery	19	38.78
Post LSCS	13	26.4
Total	49	100

Of the 49 referred cases antenatal references were 15 (30.6%), intrapartum 2 (4.08%). After vaginal delivery 19 (38.78%) and post cesarean 13 (26.4%).

Maternal characteristics

Table 3 shows that majority belonged to 25 to 29 years (43.02%). Youngest patient was 19 years and oldest was 42 years.

Table 4 shows that majority were para 1.

Table 3: Age distribution.

Age (years)	Number	Percentage
<20	1	01.1
20 to 24	18	20.93
25 to 29	37	43.02
30 to 34	18	20.93
>34	12	13.95
Total	86	100

Table 4: Parity distribution.

Parity	Number	Percentage
Primi	16	22.09
Para-1	54	62.79
Para-2	13	15.11
Para-3	0	-
>3	0	-

Table 5: Type of delivery.

Type of delivery	Number	Percentage
Normal	32	37.20
Instrumental	02	02.13
Caesarean	52	60.46
Total	86	100

52 (60.46%) were following caesarean delivery. 32 (37.20%) were following vaginal delivery and 2 (2.13%) were following instrumental delivery.

Table 6: Type of caesarean section.

Type of CS	Number	Percentage
Elective	24	46.15
Emergency	28	53.84
Total	52	100

Majority of emergency hysterectomies were following caesarean sections 52 (60.46%).

Emergency caesareans were 28 cases (53.84%).

Table 7: Number of prior caesareans.

Number of CS	Number	Percentage
Primary CS	16	30.76
Prev 1 CS	31	59.61
Prev 2 CS	05	09.60
Total	52	100

Primary caesareans accounted for 30.76% and previous caesareans were 69.23%.

Atonic PPH, 54.65% and placenta previa 26.74% formed major indications. Atonic PPH following LSCS was 25.53% and following vaginal delivery was 74.4%. Of the 36 cases of previous caesarean, placenta previa was

present in 20 cases (55.6%) and 12 cases (33.3%) were adherent placenta.

Table 8: Indication for hysterectomy.

Indication	Number	Percentage
Atonic PPH	47	54.65
Placenta previa	23	26.74
Rupture uterus	08	09.3
Colporhexis	05	05.8
Broad ligament hematoma	02	2.3
Secondary PPH	01	1.15
Total	86	100

Table 9: Obstetric high-risk factors.

Risk Factor	Number	Percentage
Previous CS	36	42
Placenta previa	23	26.7
Fibroid uterus	7	8.1
PG E2	7	8.1
PG E1	2	2.3
Oxytocin	3	3.4
PIH	4	4.6
Polyhydramnios	2	2.3
Multiple pregnancy	3	3.4
Abruption	2	2.3
IUD	3	3.4
Instrumental	2	2.3
Bicornuate	1	1.75
Jaundice	1	1.75
Retained placenta	1	1.75

Rupture uterus was indication in 8 cases of which 3 (37.5%) were previous one caesarean and 1 had previous 2 caesareans. 4 cases (50%) were rupture of unscarred uterus.

Table 10: Type of hysterectomy.

Type	Number	Percentage
Total hysterectomy	48	55.8
Subtotal hysterectomy	38	44.18
Total	86	100

Total hysterectomy was done in 48 (55%) and 38 (44.18%) had subtotal hysterectomy.

DISCUSSION

Emergency obstetric hysterectomy remains a lifesaving procedure. Modern obstetrics have come up with multiple strategies to identify early and correct catastrophes like atonic PPH and rupture uterus. Still the need for emergency hysterectomies persists and remains unpredictable. Cesarean sections are on the rise and contributes to placenta previa and scar ruptures. Advances in anesthesia, transfusion medicine, intensive care and

neonatology has brought a new face to modern obstetrics. This has led to more high-risk pregnancies and rising caesarean rates. Thus, emergency obstetric hysterectomies have become more relevant.

Incidence of obstetric hysterectomy in our study was 0.109%. This is like most other studies. This is comparable to studies done in Australia (incidence 0.08%) and New York (incidence 0.14%).^{3,4}

SATH being a tertiary center had most of the cases booked outside (54.65%). Majority (71.4%) were from government hospitals where facilities of blood transfusion and major surgery do not exist. 65.3% were referred postpartum.

In a study from Pakistan, 82.6% had received no antenatal care prior to presentation.⁵ Majority belonged to rural areas with low-income status. In our study majority were booked cases.

Age distribution of women undergoing emergency hysterectomy reflects the mean age of obstetric population and majority (43.02%) belonged to the age group of 25 to 29 years.

Parity distribution also reflects the parity range of general population. Majority (62.79%) belonged to para 1 category. Increasing parity as a risk factor for hysterectomy was noted in studies by Imuda et al and study from Boston.⁶ Emergency hysterectomy was more following caesarean sections (60.46%) and emergency caesareans were majority (53.84%). Previous caesarean history was present in 42% cases. This was also noted by study from Brigham and Women's Hospital, Boston.⁷ Previous caesarean with placenta previa was seen in 56% and previous caesarean with adherent placenta in 33%. A total of 23 cases underwent hysterectomy of which 20 (86.4%) had history of previous caesareans.

The commonest indication for emergency obstetric hysterectomy was atonic PPH (54.65%). Placenta praevia (26.74%) was second and rupture uterus (9.3%) third common. Atonic PPH was commonest indication in studies by Kant and Wadhvani, Forna and Sharma et al.^{8,9}

There is a rising trend towards placenta previa as indication for hysterectomy as shown by studies by Flood et al and Tamsikhan.^{10,11} In our study placenta previa was second common indication. In a study from Netherlands, the main indication was placenta accreta.¹² This may be attributed to rising caesarean sections. In studies from Saudi Arabia and Korea also the main indication was atonic pph.^{13,14} This is similar to our study.

44% of cases underwent subtotal hysterectomy. When general condition is poor, total hysterectomy may be difficult. It has the benefits of lesser blood loss and lesser operating time. However, in morbidly adherent placenta removal of cervix may be needed for better hemostasis.

CONCLUSION

This study concluded that emergency obstetric hysterectomy remains as lifesaving and unpredictable. All obstetricians need to be trained in this procedure. Increase in caesarean sections can lead to repeat caesareans and adherent placentation. Strict guidelines and uniform protocols in deciding mode of delivery and upgrading infrastructure at delivery points remains the need of the day.

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REFERENCES

1. Bateman BT, Mhyre JM, Callaghan WM. Peripartum hysterectomy in the United States: nationwide 14-year experience. *Am J Obstet Gynecol.* 2012;206(1):63.
2. Wen SW, Huang L, Liston RM, Haeman M, Baskett TF, Rusen ID. Severe maternal morbidity in Canada, 1991-2001. *Can Med Assoc J.* 2005;173:759-63.
3. Awan N, Bennett MJ, Walters WA. Emergency peripartum hysterectomy: a 10-year review at the Royal Hospital for Women, Sydney. *A N Z J Obstet Gynaecol.* 2011;51(3):210-5.
4. Kastner ES, Figueroa R, Garry D, Maulik D. Emergency peripartum hysterectomy: experience at a community teaching hospital. *Obstet Gynecol.* 2002;99(6):971-5.
5. Fatima M, Kasi PM, Baloch SN, Afghan AK. Experience of emergency peripartum hysterectomies at a tertiary care hospital in Quetta, Pakistan. *Int Scholar Res Not.* 2011;2011.
6. Imudia AN, Awonuga AO, Dbouk T, Kumar S, Cordoba MI, Diamond MP, et al. Incidence, trends, risk factors, indications for, and complications associated with cesarean hysterectomy: a 17-year experience from a single institution. *Arch Gynecol Obstet.* 2009;280:619-23.
7. Zelop CM, Harlow BL, Frigoletto FD, Jr, Safon LE, Saltzman DH. Emergency peripartum hysterectomy. *Am J Obstet Gynecol.* 1993;168(5):1443-8.
8. Kant A, Wadhvani K. Emergency obstetric hysterectomy: J Obstet Gynecol India. 2005;55:32-4.
9. Forna F, Miles AM, Jamieson DJ. Emergency obstetric hysterectomy. *Am J Obstet Gynecol.* 2004;190:1440-4.
10. Flood KM, Said S, Geary M, Robson M, Fitzpatrick C, Malone FD. Changing trends in peripartum hysterectomy over the last 4 decades. *Am J Obstet Gynecol.* 2009;200(6):632-e1.
11. Temzikhan O, Angun D, Karakus R. Changing trends in emergency peripartum hysterectomy in a tertiary obstetric centre in Turkey during 2000-2013. *J Turk Ger Gynecol Assoc.* 2016;17(1):26-3.
12. Kwee A, Bots ML, Visser GH, Bruinse HW. Emergency peripartum hysterectomy: a prospective study in the Netherlands. *Eur J Obstet Gynecol Reprod Biol.* 2006;124(2):187-92.
13. Yamani Zamzami TY. Indication of emergency peripartum hysterectomy: review of 17 cases. *Arch Gynecol Obstet.* 2003;268(3):131-5.
14. Bai SW, Lee HJ, Cho JS, Park YW, Kim SK, Park KH. Peripartum hysterectomy and associated factors. *J Reprod Med Obstet Gynecol.* 2003;48(3):148-52.

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