

A clinical study of cases of obstetric hysterectomy in a tertiary care centre

Dr. Shah MJ¹, Dr. Kapadia JM^{2*}, Dr. Mitra S³, Dr. Agarwal S⁴, Dr. Maheshwari S⁵

¹Associate Professor, Department of Obstetrics and Gynecology, SMIMER, Surat

²Senior Resident, Department of Obstetrics and Gynecology, SMIMER, Surat

³Third Year Resident, Department of Obstetrics and Gynecology, SMIMER, Surat

⁴Third Year Resident, Department of Obstetrics and Gynecology, SMIMER, Surat

⁵Second Year Resident, Department of Obstetrics and Gynecology, SMIMER, Surat

*Corresponding Author: Dr. Jahanvi Kapadia

Email: jahanvik777388@gmail.com

DOI:10.56018/20241202



ABSTRACT

Introduction -Obstetric hysterectomy is defined as, “Extirpation of uterus either at the time of caesarean section or following normal vaginal delivery or within the puerperal period or for any complications following pregnancy termination like perforation or sepsis .¹” Though a lifesaving procedure in various obstetric emergencies to save the life of the mother, it sacrifices her reproductive potential. **Aims & objectives** -To study the incidence, indications, predisposing risk factors, maternal and fetal outcomes in cases of obstetric hysterectomy with Postoperative follow up of such cases up to 42 days after delivery. **Materials & Methods**-This was a descriptive study carried out in the Department of Obstetrics and Gynecology, Surat Municipal Institute of Medical Education & Research, Surat from 1st November 2020 to 31st October 2022 with sample size of 30. **Results**-During the study period there were 30 cases of obstetric hysterectomy out of 13034 deliveries giving an incidence of 2.3 per 1000 births. Majority of cases of obstetric hysterectomy were multigravida female (76.66%) belonging to the age group of 26-30 years (46.6%) of which booked patients were (56.6%) with regular ANC visits and 40% cases were referred from peripheral health centres. Traumatic PPH and placenta accreta were the common indications . Maternal mortality rate was 20%. **Conclusion**-Though obstetric hysterectomy is a lifesaving procedure, decision must be taken judiciously weighing the need to sacrifice the obstetric future of the patient in favour of patient life.

Keywords: Obstetric hysterectomy, Post partum haemorrhage, Adherent placenta.

Introduction

Obstetric hysterectomy is defined as, “Extirpation of uterus either at the time of caesarean section or following normal vaginal delivery or within the puerperal period or for any complications following pregnancy termination like perforation or sepsis¹. ” or more commonly as surgical removal of a pregnant uterus. The decision to perform an obstetric hysterectomy is never taken lightly. It saves mother’s life but sacrifices the obstetric carrier, hence is always a surgical dilemma. Maternal morbidity and mortality is high in women undergoing Obstetric hysterectomy. It is rightly described as near-miss in obstetrics. The incidence ranges from 2-6 per thousand deliveries in developing countries. Aim of this study was to determine the incidence, indications, predisposing risk factors, maternal and foetal outcomes in cases of obstetric hysterectomy.

Aims and Objectives

- To study the incidence of obstetric hysterectomy.
- To study the indications and most common indication of obstetric hysterectomy.

- To study the predisposing risk factors.
- To study Maternal (morbidity and mortality) and fetal outcomes of these cases.
- Postoperative follow up of such cases up to 42 days after delivery.
-

Materials and Methods

This was a prospective observational study carried out in the Department of Obstetrics and Gynaecology, Surat Municipal Institute of Medical Education & Research, Surat from 1st November 2020 to 31st October 2022 after approval of institutional ethics committee. All cases of Obstetric hysterectomy performed during the study period were included. Cases of Obstetric hysterectomy performed outside were excluded.

A pre-validated case record proforma form was filled. Follow up of the patients was kept for up to 42 days postpartum. Data was analysed by SPSS version 20. Descriptive Statistical Analysis done for the represented data. Qualitative data such as parity, mode of delivery, complications following surgery, maternal and foetal outcome were represented as percentage or proportion. Quantitative data such as age, baby weight were represented as mean and SD.

Results

A total of 13034 births were conducted and among them 30 women underwent hysterectomy giving incidence of 2.3 per 1000 births (0.23%). As shown in table 1, 86.66% of women belonging to 21-35 years of age. 76.67 % women were multipara. 56.25% cases had previous 1 C-section and 43.75% cases had history of ≥ 2 C-sections. 37.03% patients delivered vaginally out of which 1 was instrumental vaginal delivery. 17 out of 30 patients underwent LSCS and in 3 patients exploratory laparotomy followed by obstetric hysterectomy was done. 1 was due to post-abortal sepsis, 1 was for perforation during surgical abortion with hemoperitoneum and other was ruptured interstitial ectopic pregnancy. As shown in table 2, most common indications were PPH in which conservative management was failed in 43.43% cases followed by PAS in 33.33% cases. Out of 4 cases of rupture uterus, 2 occurred in previous LSCS cases, 1 following forceps delivery and 1 following induction with tablet misoprostol. As shown in table 3, intraoperative bladder injury occurred in 2 cases of PAS and simultaneous repair was done. Immediate complications were irreversible shock in 4 cases and DIC in 3 cases. Wound infection occurred in 3 cases. Genitourinary fistula occurred in two cases. One patient required relaparotomy for pelvic hematoma. All patients required ICU care postoperatively with mean duration of ICU stay was 4.03 days. Hospital stay was also prolonged with mean stay of 9 days (table 4). As shown in table 5, maternal death occurred in 20% cases due to irreversible shock and/ or DIC. Perinatal outcome was also poor. In 4 cases of rupture uterus, stillbirth occurred. Two babies expired in NICU due to extreme prematurity (table 6).

Table 1: Socio-demographic Data and Obstetric factors Discussion

		Number of Cases(n=30)	Percentage (%)
Age wise distribution (Years)	21-25	7	23.33
	26-30	14	46.67
	31-35	5	16.67
	Above 35	4	13.33
Parity	Multipara	23	76.67
	Primipara	7	23.33
Geographical Area	Rural	16	53.33
	Urban	14	46.67
ANC registration	Booked	17	56.67
	Referred	13	43.33
Obstetric history	Previous 1 CS	9	30.00
	Previous >= 2CS	7	23.33
Mode of delivery	Vaginal	10	37.03
	Caesarean section	17	62.97
	Laparotomy	3	-

Table 2: Indications for Obstetric hysterectomy

	Indication for Obstetric hysterectomy	Number of Cases (n=30)	Percentage (n=30)
Post partum haemorrhage (PPH)	Atonic PPH	11	36.67
	Mixed	2	6.67
Placenta Accreta spectrum (PAS)	Placenta accreta	5	16.67
	Placenta Percreta	4	13.33
	Placenta increta	1	3.33
Ruptured uterus	Scarred Uterus	2	6.67
	Unscarred Uterus	2	6.67
Puerperal Sepsis	Puerperal sepsis	1	3.33
	Post abortal sepsis	1	3.33
Others	Interstitial Pregnancy	1	3.33

Table 3: Complications

		Number of Cases	Percentage
Intra operative complications	Bladder injury	2	6.67
Post-Operative complications	Irreversible hypovolemic shock	4	13.33
	DIC	3	10.00
	Wound infection	3	10.00
	Postoperative fever	1	3.33
	Re-laparotomy	1	3.33
	Vesico-vaginal fistula	1	3.33
	Uretero-vaginal fistula	1	3.33

Table 4: ICU and Hospital stay

	Number	Percentage
ICU stay (in days)		
1-3	18	60
4-7	8	26.66
More than 7	4	13.33
Hospital stay (in days)		
1-5	5	20.83
6-10	12	50
More than 10 days	7	29.17

Table 5: Maternal outcome

Maternal Outcome	Number of Cases (n=30)	Percentage (%)
Alive	24	80
Dead	6	20
Total	30	100

Table 6 : Perinatal outcome

Perinatal outcome	Number of cases (n=27)	Percentage (%)
Live & Healthy	20	74.07
Stillbirth	5	18.51
Neonatal death	2	7.40

Discussion

Obstetric hysterectomy has always been and will always be nightmare scenario for obstetrician. Maternal morbidity and mortality is increased while obstetric hysterectomy, it is lifesaving procedure. Decision of obstetric hysterectomy is end of the road measure, so obstetrician must be hundred percent sure that it is the only answer. Incidence of obstetric hysterectomy in my study was 2.3% which is comparable to 2.92% by Deepak AV et al, 1.3% reported by Vardha NK et al and 3.5% reported by Sahasrabhojane et al.^{2,3,4}. This is higher as compared to 0.32% reported by Mantri et al and 0.18% reported by Kore et al.^{5,6}. This was also due to the fact that this study was done at a tertiary care centre where the rate of referred patients was quite high (43.33%) due to unavailability of anaesthetist, lack of facilities for C-section, lack of blood bank services and unavailability of ICU at peripheral centres. This proves the importance of early detection and timely referral to avoid maternal morbidity and mortality. 8 out of 30 patients were delivered before admission to our hospital. 1 patient presented following illegal abortion with septic shock and the other one presented on postpartum day 40 following delivery by local dais with complaint of persistent vaginal bleeding and intra-operatively was found out to adherent retained placenta. One was outside Caesarean section with broad ligament haematoma. In these cases, hysterectomy would have been avoided if it would have been hospital delivery. Majority of the patients were between 25-35 years of age (63.3%). 76.67% patients were multiparous. Similar demographic results were observed in studies done by Najam et al and Bhat et al.^{7,8}. This is due to higher association of Placenta accreta spectrum (PAS) and rupture of uterus in multiparous female. Most common indication in our study was postpartum haemorrhage (43.3%) followed by placental abnormality in 33.34% cases. 11 out of 30 patients underwent uterine atony and did not respond to utero-tonic agents. Risk factors associated with atonic uterus were multiparity, placenta previa, severe pre-eclampsia and abruptio placenta. In patients with atonic uterus, conservative surgical methods like Haymen's sutures, B-lynch suture, step wise devascularisation of uterus and internal iliac artery was attempted but was not successful. Emergency Interventional radiological procedures were not available hence could not be done. Thus, to safeguard maternal health decision for obstetric hysterectomy was made. Out of 2 cases with mixed PPH, one patient was referred following caesarean section with gross hemoperitoneum and other was due to extension of incision during C-section. Similar results have been reported by Kamble et al and K. Saritha et al.^{9,10}. Morbidly adherent placenta was the second most common indication (33.34%). 16 out of 30 patients had history of one or more caesarean sections. Obstetric hysterectomy following ruptured uterus was seen in 13.33% cases and obstetric sepsis was the indication in 6.67% cases. Whereas Kalyankar et al (2021-2022), Taru Gupta et al, Verma et al^{11,12,13} reported morbidly adherent placenta to be the most common indication (~50%) followed by post-partum haemorrhage, ruptured uterus and puerperal sepsis. This shows the rising trend of caesarean sections and endometrial injury by obstetric curettage leading to abnormal placentation and morbidly adherent placenta. Intra-operative complications included bladder injury in 6.67% cases and average blood loss was estimated to be about 1500-2000 ml (mean=1380±650ml) which was managed by blood and blood product transfusion. 12 patients required 4 units of RCC transfusion. 14 out of 30 patients required ventilator support post-operatively and 4 patients with irreversible shock needed vasopressors. These results are in correspondence with studies by Mazar et al, Chawla J et al and Archana S. et al.^{14,15,16}. Delayed complications included fever, wound infection, genito-urinary fistula. All patients required ICU admission. Mean duration of ICU stay was 4 days and mean duration of hospital stay was 9 days. Maternal mortality rate was 20% (6 out of 30 patients expired) which was mainly attributed to hypovolemic shock and/or DIC. Similar results have been reported by K. Saritha et al (15.79%) and Varda NK et al (13.33%)^{10,3}. Perinatal mortality rate was 25.51% of which 5 were still born and 2 were early neonatal deaths. This was significantly lower as compared to studies by Mahbuba et al (55%)¹⁷ and Ngozi Orazu like et al (63.8%)¹⁸. Early diagnosis in cases of APH and ruptured uterus helps to reduce still births and perinatal mortality rate.

Conclusion

EOH is a necessary evil in obstetrics. Obstetric hysterectomy stands as a critical "near miss event" in both developed and developing nations. Its necessity typically arises from complications such as

postpartum haemorrhage and adherent placenta. While undeniably lifesaving in emergent obstetric situations, this procedure poses a profound ethical quandary for obstetricians. The choice to proceed with obstetric hysterectomy, particularly for primi-parous women or those without living children, presents a formidable challenge. It demands careful consideration, balancing the imperative to preserve the patient's reproductive future against the paramount goal of preserving her life.

Limitations

Study is limited to the cases managed at our tertiary care centre and hence management and prognosis of patients at other medical care units cannot be known. This study was done for 2 years i.e.: short duration, hence standardised protocols that can be applied for all patients cannot be made since this will require a larger sample size. In this study, follow up is maintained up to 6 weeks postpartum, hence in long term the psychological and social trauma the women must be going through due to hysterectomy not known. Following hysterectomy, patients achieved surgical menopause that has an impact on ovarian reserve. Hence, long term hormonal effects of these patients cannot be accessed.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Done

References

1. Tasneem F, Shahbag V: Obstetric hysterectomy: a receding trend, International Journal of Reproduction, Contraception, Obstetrics and Gynecology Tasneem Fet al. Int J Reprod Contracept Obstet Gynecol. 2019Jan;8(1):353-358.
2. Deepak A. V.*, K. J. Jacob, Sumi P. Maria Peripartum hysterectomy: a five year review at a tertiary care centre International Journal of Reproduction, Contraception, Obstetrics and Gynecology DeepakAV et al. Int J Reprod Contracept Obstet Gynecol. 2017 Aug;6(8):3590-3593.
3. Vardha NK, Varshitha. Prospective study of peripartum hysterectomy done over a two years periods in hospitals attached to J.J.M.M.C. Davangere. Int J Current Medical & Applied Sciences. 2019, May, 22(3):34-40.
4. Sahasrabhojane M, Jindal M, Kamat A. Obstetric hysterectomy: a lifesaving emergency. J Obstet Gynecol India Vol. 58, No. 2: March/April 2008 pg. 138-141
5. Mantri L, Maheswari K, Kiran C. Emergency hysterectomy. A 10 years review. J Obstet Gynecol India. 1993;43:936-9.
6. Kore S, Potwar S, Tamboli J. Obstetric hysterectomy: analysis of 34 cases. J Obstet Gynecol India. 2001;51:111-4.
7. Najam R, Bansal P, Sharma R, Agrawal D. Emergency obstetric hysterectomy: a retrospective study at a tertiary care hospital. J Clin Diagn Res. 2010; 4:2864-8.
8. Bhat S, Bhave S. Obstetric hysterectomy a lifesaving procedure and its complications. Int J Med Dent Sci. 2016;5(1):996-1000.
9. Kamble SN, Jamdade YM. Obstetric hysterectomy: a retrospective study. Int J Reprod Contracept Obstet Gynecol 2021;10:4522-6.
10. Saritha K, Ratna G, Sireesha V. Emergency Peripartum Hysterectomy: A Five-Year Study. J of Evolution of Medical & Dental Sciences 2015; Vol. 4, Issue 85, October 22;14757-63.
11. Kalyankar VY, Nimbalkar RJ, Kalyankar BV, Gadappa SN. A comprehensive study of obstetric hysterectomy. Ind J OBGYN. 2023;10(1): 88-92.
12. Gupta T, Gupta S, Deepika, Gupta N. Changing trends in incidence, type, indication and maternal outcome of peripartum hysterectomy over 10 years at a tertiary care Centre. International Journal of Reproduction, Contraception, Obstetrics, and Gynecology. 2017; 6(6): 2216-21.
13. Verma A, Sharma G, Kashyap M : A Retrospective Analysis of Emergency Obstetric Hysterectomy: A Life-Saving Intervention.
14. Mazar S, Haidar F. Obstetric hysterectomy and its associated maternal morbidity and mortality. PJMHS. 2016;10(4):1430-33.

15. Chawla J , Arora Col,Paul M,Sangita N: Emergency Obstetric Hysterectomy: A Retrospective Study from a Teaching Hospital in North India over Eight Years,Oman Med J. 2015 May; 30(3): 181-186.
16. Archana .S, Syamala O.Obstetric hysterectomy - An analysis. Indian J Obstet Gynecol Res. 2018;5(4):563-566.
17. Mahbuba, Fatema K, Das SR,Alam IP, Parvin Z. Emergency Obstetric Hysterectomy: A Review of 40 cases in Faridpur Medical College Hospital. Faridpur Med Coll J 2016;11(1):01-05.
18. Ngozi Orazulike¹,Justina Alegbeleye², Gogo Mba³ Obstetric Hysterectomy As A Surgical Intervention in the Management of Obstetric Haemorrhage At the University of Port Harcourt Teaching Hospital, Nigeria. IOSR Journal of Dental and Medical Sciences (IOSR-JDMS) e-ISSN: 2279-0853, p-ISSN: 2279-0861. Volume 16, Issue 2 Ver. II (February. 2017), PP 90-94.