

A STUDY OF OBSTETRIC HYSTERECTOMY OVER A PERIOD OF 5 YEARS AT CUSMCH

RAHUL M RATHOD^{ORCID}, HARSHDEEP K JADEJA^{ORCID}, BHAVESH B AIRAO

Department of Obstetrics and Gynecology, C.U. Shah Medical College and Hospital, Surendranagar, Gujarat, India.

*Corresponding author: Dr Harshdeep K jadeja. Email: harshdeepjadeja48@gmail.com

Received: 08 July 2024, Revised and Accepted: 20 August 2024

ABSTRACT

Objectives: The study aimed (1) to determine the indication of obstetric hysterectomy and (2) to determine the fetomaternal outcome.

Methods: This is a hospital-based retrospective study carried out in the Department of Obstetrics and Gynecology, C.U. Shah Medical College and Hospital from January 2018 to December 2020.

Results: Out of 8881 deliveries during our study period, there were a total of 20 patients who underwent an obstetric hysterectomy, the incidence being 0.2%. Nine cases out of 6871 vaginal deliveries and 11 cases out of 2510 cesarean deliveries required an obstetric hysterectomy. Maximum patients, seven out of 20 were between 31 and 35 years age group followed by six patients between 36 and 40 years and five patients above 41 years. Only two patients were below 30 years of age. Most of the cases (70%) belonged to the lower middle class and 30% were from the upper middle class. About 60% were registered antenatal care (ANC) cases while 40% never visited any health-care facility. Out of 20 patients who underwent an obstetric hysterectomy, 18 patients (90%) were referred from another center while only 2 patients (10%) were admitted at our center. Eleven patients that are 55% delivered outside the institute among which three patients were home delivered by unskilled birth attendants. Nine patients were delivered at our center and among these seven patients were referred from adjoining primary health-care centers, community health-care centers, and other private hospitals. Our institute being a tertiary hospital, maximum high-risk and complicated deliveries were referred.

Conclusion: Obstetric hysterectomy is an unwanted but necessary emergency in obstetrics. It is a life-saving procedure in many catastrophic conditions, although it curtails the future. Good ANC, identification of risk factors, timely referral, and intervention at a well-equipped hospital can reduce obstetric hysterectomies. With the increasing incidence of cesarean deliveries and morbidly adherent placenta, the need for obstetric hysterectomy is increasing. With the improvement of modern obstetrics and modern modalities for the treatment of postpartum hemorrhage and adherent placenta, there is a reduction in the number of obstetric hysterectomies.

Keywords: Obstetric hysterectomy, Postpartum hemorrhage, Maternal mortality.

© 2024 The Authors. Published by Innovare Academic Sciences Pvt Ltd. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>) DOI: <http://dx.doi.org/10.22159/ajpcr.2024v17i10.51789>. Journal homepage: <https://innovareacademics.in/journals/index.php/ajpcr>

INTRODUCTION

Obstetric hysterectomy, the surgical removal of the uterus during pregnancy or immediately postpartum, represents a significant intervention in maternal health with profound implications for both the mother and the unborn child [1]. While relatively rare, obstetric hysterectomy is often undertaken as a life-saving measure in the face of obstetric emergencies such as uncontrolled postpartum hemorrhage, uterine rupture, placenta accretion, or other severe complications [2]. Despite advances in obstetric care, obstetric hysterectomy remains a challenging procedure associated with substantial maternal morbidity and potential mortality [3]. Thus, understanding the indications, techniques, outcomes, and associated risks of obstetric hysterectomy is crucial for obstetricians and health-care providers to optimize maternal and fetal outcomes in emergency obstetric situations. In this paper, we explore the various aspects of obstetrics including its historical context, current indications, surgical techniques, maternal and fetal outcomes, as well as the psychosocial implications for women facing this complex obstetric intervention. By synthesizing the existing literature and sharing clinical insights, we aim to enhance understanding and facilitate informed decision-making regarding obstetric hysterectomy in contemporary obstetric practice.

Globally, the incidence of obstetric hysterectomy varies, influenced by factors such as health-care infrastructure, access to skilled obstetric care, and the prevalence of conditions leading to severe postpartum hemorrhage.

Reliable worldwide statistics on obstetric hysterectomy are limited, as the procedure is relatively uncommon and performed as a critical, life-saving intervention.

However, in regions with advanced health-care systems, the prevalence of obstetric hysterectomy is reported in the context of specific complications [4]. For instance, according to studies, the incidence of placenta accreta, a condition often requiring obstetric hysterectomy, has been on the rise in developed countries.

In developing nations, where access to comprehensive obstetric care may be limited, the occurrence of obstetric hysterectomy may be underreported due to various factors, including inadequate health-care infrastructure and record-keeping challenges [5]. Despite regional variations, obstetric hysterectomy remains a significant aspect of maternal health-care globally, emphasizing the importance of continued research, awareness, and medical training to address complications leading to this intervention and improve maternal outcomes worldwide.

Objectives

(1) To determine the indication of obstetric hysterectomy. (2) To determine the fetomaternal outcome.

METHODS

This is a hospital-based retrospective study carried out in the Department of Obstetrics and Gynecology, C.U. Shah Medical College and Hospital from January 2018 to December 2020.

Inclusion criteria

All the women who underwent obstetric hysterectomy, during our study period were included in our study. This included women who delivered outside our hospital but were referred to us for obstetric complications. A total of 20 patients who fulfilled the selection criteria were retrospectively enrolled. For the study, permission was obtained from the ethical committee and the Department of Medical Records to retrieve the data. The data retrieved were evaluated for age, parity, socioeconomic status, referred status, place of delivery, mode of delivery, indication of obstetric hysterectomy, maternal complication, and fetal outcome.

Out of 8881 deliveries during our study period there were a total of 20 patients who underwent obstetric hysterectomy. According to parity, 11 patients were multipara, 8 patients were second para and only 1 was primigravida. The incidence is 0.2%. 9 cases out of 6871 vaginal deliveries and 11 cases out of 2510 cesarean deliveries required an obstetric hysterectomy.

Maximum patients, 7 out of 20 were between 31 and 35 years age group followed by 6 patients between 36 and 40 years and 5 patients above 41 years. Only 2 patients were below 30 years of age.

Most of the cases (70%) belonged to the lower middle class and 30% were from the upper middle class. About 60% were registered AWC cases while 40% never visited any health-care facility. Out of 20 patients who underwent an obstetric hysterectomy, 18 patients (90%) were referred from another center while only 2 patients (10%) were admitted at our center, 11 patients that are 55% delivered outside the institute among which 3 patients were home delivered by unskilled birth attendants. Nine patients were delivered at our center and among these seven patients were referred from adjoining primary health-care centers, community health-care centers, and other private hospitals. Our institute being a tertiary hospital, maximum high-risk and complicated deliveries were referred. The majority of cases underwent obstetric hysterectomy due to postpartum.

Among all cases of postpartum hemorrhage (PPH), five cases were due to atonic PPH (inadequate contraction of uterus), two cases were related to traumatic cause (broad ligament hematoma, bladder wall along with hemoperitoneum), and one case involved both traumatic and atonic causes of PPH. About 35% of the total obstetric hysterectomy was done for a ruptured uterus. Four cases were shown to have ruptured the uterus because of obstructed labor, two cases were due to grand multiparity, and one case was associated with rupture through a previous scar: 25% of patients underwent obstetric hysterectomy due to placental cause. Three cases were associated with abruption placenta, one case was due to placenta previa, and one case was related to morbidly adherent placenta.

There were five newborns mortality whereas 7 newborns (35%) required neonatal intensive care unit (ICU) admission. Nine newborns (45%) were healthy with no complications.

Intraoperative complications include bladder injury in two patients, followed by repair, while in one case, ureter was also injured along with bladder injury corrected by bladder repair and Double J-stenting. About 25% of patients required intubation during surgery. Post-operative 5 patients required ICU admission and eight patients needed vasopressor support. This high rate was observed as maximum patients were referred from outside the hospital in critical condition, as ours is the only tertiary hospital catering to both urban and rural areas in the district. Five patients had wound infections which were treated with higher antibiotics and only one required resuturing. One patient had mild to moderate fever postoperatively which was managed with antipyretics. Two patients had acute renal failure but did not require dialysis. Overall two patients had mortality.

Table 1: Incidence of emergency obstetric hysterectomy

Type of delivery	Total no of patient	OH	Percentage
Normal vaginal delivery	6371	9	0.14
Cesarean section	2510	11	0.44
Total	8881	20	0.2

Table 2: Age and parity

Age in years	1	2	3	4	>4	Total	%
20-25	0	0	0	0	0	0	0
26-30	1	1	0	0	0	2	20
31-35	0	4	2	1	0	7	35
36-40	0	3	1	1	1	6	30
41-45	0	0	3	0	2	5	25
	1	8	6	2	3	20	

Table 3: Distribution of cases according to demographic and obstetrical factors

Socioeconomic status	No.	Percentage
A] Socioeconomic status:		
Upper	6	30
Upper Middle/upper lower		
Lower middle /lower	14	70
B]		
Registered at a health care	12	60
Registered		
Unregistered	8	40
C] Referred status		
Referred	18	90
Not referred	2	10
Place of delivery at our Institute		
Place of delivery at our Institute	9	45
Outside the institute	11	55

Table 4: Indication of emergency obstetric hysterectomy

Causes	No.	Percentage
Placental causes:		
Placenta previa	1	25
Abruption placenta	3	
Morbidly adherent placenta	1	
Ruptured uterus		
Grand multipara	2	35
Obstructed labor	4	
Rupture through previous scar		
Post-Partum Hemorrhage	1	40
Atonic	5	
Traumatic	2	
Both	1	

DISCUSSION

Obstetric hysterectomy has always been and will remain a nightmare scenario for obstetricians. Though morbidity and mortality during obstetric hysterectomy is high, it is a life-saving procedure. The decision of obstetric hysterectomy is the end of the road. Our 100 deliveries result was comparable with Mantri *et al.* [6] which reported 0.32% incidence and 0.18% reported by Kore *et al.* [7]. It is considerably higher than Columbia (0.08%) and the USA (0.06%). This can be attributed to the fact that our center is a tertiary referral center that harbors a high proportion of referred cases. Most of our patients were above 30 years (90%), with distribution being seven patients between 31-35 years,

Table 5: Perioperative maternal complications

Complications	No.	Percentage
Intraoperative	2	10
Bladder injury		
Ureteric injury	1	5
Need for intubation	5	25
Post-operative	15	75
ICU admission		
Need for		40
Vasopressin	0	
Coagulopathy		
Wound infection		25
Fever	11	55
ARF	2	10
Mortality	2	10

ICU: Intensive care unit

Table 6: Fetal outcome

Outcome	No.	Percentage
Mortality	5	25
NICU admissions	7	35
No admission	9	45

NICU: Neonatal intensive care unit

six patients between 36 and 40 years, and 5 patients above 41 years. Eleven patients out of 20 patients were multipara which is similar to Kamble *et al.* which had 41.1% patient in the group [8]. High parity was also noted in Najam *et al.* [9]. The incidence of obstetric hysterectomy with cesarean section (11 out of 2510 deliveries), that is, 0.44%/100 deliveries was higher than the incidence with vaginal delivery (9 out of 6371 deliveries) i.e. 0.14% per measure. Hence, obstetricians must be 100% sure that it is the only answer. The incidence of obstetric hysterectomy in our study was 0.2%, which is way <0.4% reported by Kamble *et al.*, 0.38% reported by Sinha *et al.* and 0.39 reported by Chewan Biswas *et al.* [10].

The same pattern was noted in Mohini *et al.* (0.34% vs. 0.071%) [11], studies from China (90.1% vs. 6.5%) and Turkey (0.078% vs. 0.016%). Improving the methods of awareness regarding the long-term morbidity associated with cesarean sections. This will help to reduce cesarean due to maternal demands, injudicious use of oxytocin and improve labor monitoring among medical and paramedical staff. The most common indication for obstetric hysterectomy was postpartum hemorrhage (40%). There were five patients with Atonic PPH and two patients with traumatic PPH. Out of five atonic PPH, four patients were referred from outside, and one delivered at our center not responding to medical management. Both traumatic and atonic PPH patients were home [7].

CONCLUSION

With the increasing incidence of cesarean deliveries and morbidly adherent placenta, the need for obstetric hysterectomy is increasing. With the improvement of modern obstetrics and modern modalities for the treatment of PPH and adherent placenta, there is a reduction in the number of obstetric hysterectomies. However, it will never completely disappear from obstetric practice because we cannot deliver by unskilled birth attendants. The second common indication was ruptured uterus (35%) out of which four patients had obstructed labor, and two patients were grand multipara. To the best of our knowledge, this is the preliminary study in our institute that compares and brings out data on the incidence, indication, and outcomes of emergency obstetric hysterectomy. However, this study has several limitations, as the result of the study was based on retrospective data from a

single center. Another limitation was the inclusion of referral cases leading to the recall bias which would have an effect on the quality of information-altering analysis of obstetric hysterectomy. Guarantee that all these conservative measures will be successful in all patients. Good ANC, identification of risk factors, timely referral, and intervention at well-equipped hospitals can reduce obstetric hysterectomy. Obstetric hysterectomy is an unwanted but necessary emergency in obstetrics. It is a life-saving procedure in many catastrophic conditions, although it curtails the future childbearing capacity of females. Extensive training in this rare skill can save the lives of mothers, so this should be part of post-graduate training.

ETHICAL COMMUNITY APPROVAL

Yes.

AUTHOR'S CONTRIBUTION

(1) 2nd year resident (rahulrathod2584@gmail.com), (2) Associate Professor (harshdeepjadeja48@gmail.com), (3) Professor and HOD, (drdhavesh.sai@gmail.com)

CONFLICTS OF INTEREST

None.

AUTHOR'S FINDING

Self-financing.

REFERENCES

- Baskett TF. Complications of the third stage of labour. In: Calder AA, Dunlop W, editors. *The Third Stage of Labour*. London: Baillière Tindall; 1990. p. 69-85.
- Knight M, Kurinczuk JJ, Spark P, Brocklehurst P. Cesarean delivery and peripartum hysterectomy. *Obstet Gynecol*. 2008;111(1):97-105. doi: 10.1097/01.AOG.0000296658.83240.6d, PMID 18165397
- Clark SL, Belfort MA, Dildy GA, Herbst MA, Meyers JA, Hankins GD. Maternal death in the 21st century: Causes, prevention, and relationship to cesarean delivery. *Am J Obstet Gynecol*. 2008;199(1):e536.1-5; discussion 91. doi: 10.1016/j.ajog.2008.02.056
- Silver RM, Landon MB, Rouse DJ, Leveno KJ, Spong CY, Thom EA, *et al.* Maternal morbidity associated with multiple repeat cesarean deliveries. *Obstet Gynecol*. 2006;107(6):1226-32. doi: 10.1097/01.AOG.0000219750.79480.84, PMID 16738145
- Garmi G, Salim R. Epidemiology, etiology, diagnosis, and management of placenta accreta. *Obstet Gynecol Int*. 2012;2012:873929. doi: 10.1155/2012/873929, PMID 22645616
- Mantri L, Mahadik K, Varma PR, Bhav S, Hase N, Dahake R. Obstetric hysterectomy: A retrospective study of 50 cases over a period of 2 years in a tertiary care center. *Int J Reprod Contracept Obstet Gynecol*. 2018;7(2):688-91. doi: 10.18203/2320-1770.ijrcog20180092
- Kore S, Kadam V, Raut A. Obstetric hysterectomy: A life-saving procedure. *Int J Reprod Contracept Obstet Gynecol*. 2016;5(3):810-4. doi: 10.18203/2320-1770.ijrcog20160637
- Kamble SN, Patil MB, Bhav S, Hase NK. Maternal outcomes in obstetric hysterectomy: A retrospective study. *Int J Reprod Contracept Obstet Gynecol*. 2017;6(7):2927-30. doi: 10.18203/2320-1770.ijrcog20172945
- Najam R, Bansal P, Sharma R, Singh K, Mohini M, Chandwani D, *et al.* Obstetric hysterectomy: A life-saving emergency procedure. *Int J Med Sci Public Health*. 2016;5(2):212-5.
- Chewans Biswas D, Das S, Biswas K, Mukherjee K, Deb T. A review of obstetric hysterectomy in a tertiary care hospital in West Bengal, India. *Int J Reprod Contracept Obstet Gynecol*. 2018;7(7):2736-40. doi: 10.18203/2320-1770.ijrcog20182723
- Mohini M, Chandwani D, Patel NH, Goyal R, Verma S. Obstetric hysterectomy: A life-saving emergency procedure. *Int J Med Sci Public Health*. 2016;5(2):212-5.