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Research Article

Obstetric hysterectomy, still a life saving tool in modern day obstetrics: a five year study

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ABSTRACT

Background: Objective of current study was to study the indications and maternal outcome of emergency obstetric hysterectomy and its role in reduction of maternal morbidity and mortality in complicated obstetric cases.

Methods: A prospective study of the cases of emergency obstetric hysterectomy performed over a period of five years from 2009 to 2013 was done.

Results: During the study period, 105 emergency obstetric hysterectomies were performed giving an incidence of 0.54%. The incidence of hysterectomy following vaginal delivery was 0.54% and that of caesarean hysterectomy was 2.08%. It was most common in the age group 26-35 years (66.66%) and in women of parity 3-4 (71.42%). Rupture uterus was the most common indication accounting for 59.04% cases followed by Atonic PPH (18.09%). Febrile illness and wound infection were the two most common co-morbidities. Maternal mortality was 5.71%.

Conclusions: Emergency obstetric hysterectomy is potentially a life saving procedure which every obstetrician must be familiar with in cases of catastrophic rupture uterus and intractable haemorrhage. With the help of prostaglandins, modern policies of active management of labor, timely performance of caesarean section, internal iliac artery ligation, compression sutures etc. obstetric hysterectomy should be made a more rare procedure

Keywords: Obstetric hysterectomy, Emergency hysterectomy, Post-partum hysterectomy

INTRODUCTION

Emergency Obstetric Hysterectomy (EOH) is an uncommon obstetric procedure, usually performed as a life-saving measure in cases of intractable obstetric hemorrhage.¹ It was first proposed in 1869 but with no desirable results.² However, seven years later (1876), the first cesarean subtotal hysterectomy was carried out successfully, with the result that both the mother and the baby survived.³ In modern obstetrics, the overall incidence of EOH is 0.05%, but there are considerable differences in incidence in different parts of the world, depending on modern obstetric services, standards and awareness of antenatal care, and the effectiveness of family planning activities of a given community.⁴ The incidence of peripartum hysterectomy in the literature is reported as 0.24, 0.77, 2.3, and 5.09 per 1000 deliveries

by Sakse et al.,⁵ Whiteman et al.,⁶ Bai et al.⁷ and Zeteroglu et al.,⁸ respectively.

Emergency obstetric hysterectomy remains an essential weapon in any obstetrician's armory. Hence, it is important to know the general indices, changing trends and indications of this weapon. Keeping this in mind, the present study was undertaken with an aim to evaluate the incidence, maternal profile, indications and maternal outcome of this procedure.

METHODS

This is a retrospective analysis of 105 cases of emergency obstetric hysterectomies performed over a period of five years from 2009 to 2013 in department of obstetrics and gynaecology, GSVM medical college, Kanpur. Data were

obtained by reviewing the obstetric admission register, operation register, mortality register and case records. Each case record was analyzed in detail with special emphasis on indications, maternal profile, type of operation performed, maternal morbidity and mortality and also fetal outcome.

Hysterectomy performed for any indication during pregnancy, labor and puerperium has been included on this study.

RESULTS

Over the period of five years, out of the total 19125 deliveries, there were 150 cases of rupture uterus, giving an incidence of 0.78% (1 in 127 deliveries). Out of the 19125 deliveries, obstetric hysterectomy was performed in 105 cases (0.54%),

Incidence

During the study period there were 19125 deliveries, 5025 cesarean sections and 105 obstetric hysterectomies. The incidence works out to be one in 182.1 deliveries (0.54%) and one in 47.8 (2.08%) cesarean sections.

Distribution of cases according to socio-economic status, antenatal care and residence

Table 1 shows that 71.42% women were of parity three and four, while 9.5% were of parity five or more. Majority (66.66%) of the women belonged to the age group of 26-35 years. Two women were in the age group 18-20 years.

Table 1: Maternal characteristics.

Age	Parity					Total
	1	2	3	4	5 or more	
20 or less	2	-	-	-	-	2
21-25	2	4	8	2	-	16
26-30	-	8	26	2	4	40
31-35	-	4	10	10	6	30
36-40	-	-	7	10	-	17
Total	4	16	51	24	10	105

Table 2 shows that 80% cases were of poor socioeconomic status 20% belong to middle class. Out of 105 patients, only 10 (9.52%) cases were booked. In our series 85.71% cases belonged to rural area.

Table 2: Distribution of cases according to socio-economic status, antenatal care and residence.

	Socioeconomic status		Antenatal care		Residence	
	Poor	Middle	Unbooked	Booked	Rural	Urban
No. of cases	84	21	95	10	90	15
Percentage	80	20	90.47	9.52	85.71	14.28

Table 3 shows that the most common indication for hysterectomy was rupture uterus (62/105); (59.04%). Table 3 further shows that the second most common indication was atonic PPH (19/105; 18.09%) not amenable to medical methods and brace sutures. Most of them followed prolonged labor, five cases followed abortion.

Table 3: Indications of obstetric hysterectomy (n=105).

Indication	No.	%
Rupture uterus	62	59.04 %
Atonic PPH	19	18.09 %
MTP with perforation	5	4.76 %
Placenta accreta	15	14.28%
Broad lig. Hematoma	4	3.80 %
Total	105	100 %

Fifteen (14.28%) women had hysterectomy for placenta accreta. Seven of them had previous cesarean scar, four had placenta previa, two had previous cesarean scar with

placenta previa, and two had placenta percreta. In four women (3.80%), hysterectomy was done for broad ligament hematoma resulting from the extension of uterine incision. There were five cases (4.76%) of uterine perforation at lateral wall with profuse hemorrhage following MTP requiring hysterectomy.

Table 4 shows that 100 out of the 150 (66.66%) cases of rupture uterus were obstructive rupture. 20% cases of rupture uterus were due to previous scar rupture. Most of them had previous cesarean scar. Among these 14 patients had previous classical scar and 11 had lower segment scar.^{9,10}

Table 4: Causes of rupture uterus (n=150).

Causes	No.	%
Spontaneous obstructive rupture	100	66.66%
Previous LSCS scar rupture	30	20 %
Other causes	20	13.33%
Total	150	100 %

Maternal outcome

Table 5 summarizes the maternal morbidity and mortality. Febrile morbidity was the commonest postoperative complication (28.57%), followed by wound infection (23.80%). Five (4.76%) cases had burst abdomen. There were six maternal deaths, giving 5.71% maternal mortality. These resulted from hemorrhagic shock in three, endotoxic shock in two and DIC in one case. Perinatal mortality was 85.71% (90/105 cases) with only 15 live births.

Table 5: Maternal morbidity and mortality.

Indication	No.	%
Febrile morbidity	30	28.57 %
Wound infection	25	23.80%
Burst abdomen	5	4.76 %
Paralytic ileus	10	9.52%
Maternal mortality	6	5.71%
• Hemorrhagic shock	3	
• Endotoxic shock	2	
• DIC	1	

Table 6 shows a comparison of the incidence and indications of obstetric hysterectomy of various reported series from India.

Table 6: Comparison with other reported series.

Authors	Incidence (%)	Major indications		
		Rupture uterus	Atonic PPH	Placenta accreta
Gupta et al. (2001)	0.26	69.7	9.70	6.30
Kore et al. (2001)	0.18	38.20	32.30	5.88
Sinha ¹⁷ (2001)	0.38	69.92	9.80	12.57
Mukherjee (2002)	0.15	38.30	14.90	8.40
Kanwar et al. (2003)	0.32	36.58	31.71	14.63
Praneshwari Devi ¹¹ (2004)	0.07	23.00	19.20	26.90
Sahu (2004)	0.20	38.88	27.70	13.88
Present series (2014)	0.54	59.04	18.09	14.28

DISCUSSION

It is essential that every obstetrician should be familiar with the indications and the skill to do this operation. Senior obstetricians should be available but resident doctors should be adequately trained to perform a quick subtotal hysterectomy. Most of the hysterectomies in our series were performed by the senior residents on duty outside of routine working hours. Incidence of emergency obstetric hysterectomy in our series is 0.54% which is much higher than other reported series; 0.07% by

Praneshwari Devi et al.,¹¹ 0.15% by Mukherjee,¹² 0.18% by Kore et al.,¹³ 0.2% by Sahu et al.,¹⁴ 0.26% by Gupta,¹⁵ 0.32% by Kanwar et al.,¹⁶ and 0.38% by Sinha.¹⁷ Rupture uterus was the commonest indication for emergency obstetric hysterectomy in our series accounting for 59.04% of the cases. All these women were un-booked emergency cases belonging to the low socioeconomic group, resulting from neglected obstetric care and delayed transport. This incidence is much similar to 69.9% reported by Sinha¹⁷ and 69.7% reported by Gupta.¹⁵ However, Sahu¹⁴ and Mukherjee¹² reported a lesser incidence of about 38%. Atonic PPH (18.09%) was the second most common indication followed by placenta accreta (14.28%) in our series. This is in contrast to the study by Praneshwari Devi¹¹ where morbid adhesion of placenta (26.9%) was the commonest indication for obstetric hysterectomy, followed by rupture uterus (23.00%). Lau et al.¹⁸ have also reported morbid adhesion of placenta (32.7%) as the most common cause of haemorrhage and hysterectomy.

Morbidity and mortality are mainly due to the conditions leading to emergency hysterectomy and not due to the operative procedure itself.

In our study also, the indication itself and the associated factors like anemia, handling by untrained dais, infection, delayed referral or transport and low moribund conditions were mainly responsible for morbidity and mortality.

CONCLUSION

Obstetric hysterectomy is a life saving procedure in most of the cases. In spite of development of various conservative medical management and surgical procedures to cut off possibility of obstetric hysterectomy, various patients are referred to our side in such a condition that the surgeon is sometimes in a dilemma whether to sacrifice a woman's reproductive capability especially if she is of low parity. But a timely decision to perform hysterectomy can be the difference between the life and death of a woman. A quick subtotal hysterectomy usually saves life in conditions of acute blood loss and shock. Regular antenatal care, identification of high risk factors at periphery and timely referral to higher center not only saves mother but also their reproductive capability. Adequate training of resident doctors to perform obstetric hysterectomy in an emergency situation is of utmost importance. Educating the woman, her family members and the local population is equally important to avail immediate obstetric care rather than giving unnecessary trial at home by unskilled persons. Timely referral to a tertiary centre can reduce morbidity and mortality.

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Ethical approval: The study was approved by the institutional ethics committee

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