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Original Article

A clinical review of emergency obstetric hysterectomy

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Abstract

Objectives: To review the incidence, maternal profile, indication of emergency obstetric hysterectomy and the maternal morbidity and mortality following this procedure. *Methods:* A retrospective analysis of emergency obstetric hysterectomies performed over a period of 6 yrs from 2001 to 2006 was done. *Results:* During the study period, 112 emergency obstetric hysterectomies were performed giving an incidence of 0.73%. It was most common in the age group of 26-35 years (68.7%) and in women of parity 3-5 (85.7%). Rupture uterus was the most common indication accounting for 75% of the cases followed by atonic PPH (8%). Febrile illness and wound infection were the two most common morbidities. Maternal mortality was 5.35%. *Conclusions:* Emergency obstetric hysterectomy still remains a life saving procedure which every obstetrician must be familiar with in cases of catastrophic rupture uterus and intractable hemorrhage. Availing proper antenatal care, identification of risk factors and timely referral to a tertiary institution can reduce the incidence of emergency obstetric hysterectomy and associated morbidity and mortality.

Key words : emergency hysterectomy, obstetric hysterectomy, postpartum hysterectomy

Introduction

Emergency obstetric hysterectomy is generally performed as a life saving procedure in cases of rupture uterus, postpartum hemorrhage, morbid adhesions of placenta and uterine sepsis. On one hand, it is used as a last resort to save the lives of mothers and on the other hand women's reproductive capability is sacrificed. Often it is a difficult decision and requires good clinical judgment. Most often, it needs to be carried out when the mother's condition is too critical to withstand the risks of surgery and anesthesia. The maternal outcome greatly depends upon the timely decision, the surgical skill and the speed of performing the surgery.

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 112 cases of emergency obstetric hysterectomies performed over a

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period of 6 years from January 2001 to December 2006. 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, associated surgeries, maternal morbidity and mortality and also the fetal outcome. Hysterectomy performed for any indication during pregnancy, labor and puerperium has been included in this study.

Results

Over the period of six years, out of the total 15,298 deliveries, there were 138 cases of rupture uterus, giving an incidence of 0.90% (1 in 110 deliveries). Out of the 138 cases of rupture uterus, obstetric hysterectomy was performed in 84 cases (60.8%), whereas in 54 cases (39.13%) no hysterectomy was performed and it was managed by repair of the uterus with or without tubal ligation.

Incidence

During the study period there were 15298 deliveries, 6231cesarean sections and 112 obstetric hysterectomies. The incidence works out to be one in 136.5 deliveries (0.73%) and one in 55.6 (1.97%) cesarean sections.

Maternal characteristics

Table 1 shows that 46.4% women were of parity three and four, while 39.2% were of parity five or more. Majority (68.7%) of the women belonged to the age group of 26-35 years. Five women were in the age group 18-20. Two of them had septic abortion with large perforation of the uterus, one had placenta increta and two had rupture uterus due to obstructed labor.

Indications

Table 2 shows that the most common indication for hysterectomy was rupture uterus (84/112; 75%). Table 3 shows that 63 out of the 84 (75%) cases of rupture uterus were spontaneous obstructive rupture due to CPD (44 cases), neglected shoulder presentation (16 cases) or hydrocephalus (three cases). Six women (7.1%) had iatrogenic or traumatic rupture due to obstetric manipulations, like internal podalic version in three, breech extraction with head entrapment in one and injudicious use of oxytocics in two. Scar rupture necessitated hysterectomy in 14 (16.6%) women. Most of them had previous cesarean scar. One woman had fundal rupture following previous repair of ruptured cornual pregnancy.

Table 2 further shows that the second most common indication was atonic PPH (9/112; 8.03%) not amenable to medical methods and brace sutures. Most of them followed prolonged labor, two cases followed abruption. Six (5.35%) women had hysterectomy for placenta accreta.

Two of them had previous cesarean scar, two had placenta previa, one had previous cesarean scar with placenta previa, and one had placenta percreta. In four women hysterectomy was done for broad ligament hematoma resulting from the extension of uterine incision. Two cases each of septic abortion and grossly infected puerperal uterus required hysterectomy. There were two cases of uterine perforation at lateral wall with profuse hemorrhage following MTP requiring hysterectomy. There was one case each of perforating mole, ruptured cornual pregnancy and fibroid uterus in lower segment managed by hysterectomy.

Table 1. Maternal characteristics.

Age (years)	Parity					Total
	1	2	3	4	5 or more	
20 or less	3	2	-	-	-	5
21 – 25	-	4	10	7	1	22
26 – 30	2	4	4	16	20	46
31 – 35	-	1	2	8	20	31
36 – 40	-	-	2	3	3	8
Total	5	11	18	34	44	112

Table 2 : Parity distribution in rupture uterus.

Parity	Number	Percentage
1	7	5.1
2	18	13
3	28	20.3
4	32	23.2
5 or more	53	38.4
Total	138	100

Table 3. Indications for emergency obstetric hysterectomy (n=112).

Indication	Number	Percentage (%)
Rupture uterus	84	75.00
Atonic PPH	9	8.03
Placenta accreta	6	5.35
Broad ligament hematoma	4	3.57
Uterine sepsis	2	1.78
Septic abortion	2	1.78
MTP perforation	2	1.78
Molar pregnancy	1	0.89
Ruptured cornual pregnancy	1	0.89
Fibroid in lower segment	1	0.89

Type of hysterectomy and associated surgical procedure

Out of the 112 emergency obstetric hysterectomies, 98 (87.5%) were subtotal hysterectomies. Only in 14 cases total hysterectomy was done. One woman required relaparotomy following subtotal hysterectomy due to continued bleeding from cervical stump after which total hysterectomy had to be done. Sixteen (19%) cases of rupture uterus had rupture of bladder also, requiring repair of the bladder. In 15 cases adnexectomy was also done. Intraperitoneal drain was kept in almost all cases. On an average blood transfusion of 2-5 units were given in all the cases.

Maternal outcome

Table 4 summarizes the maternal morbidity and mortality. Febrile morbidity was the commonest postoperative complication (27.6%), followed by wound infection (25.9%). Seven (6.25%) cases had burst abdomen. Three cases developed vesicovaginal fistula in 10-12 days, and all of them had bladder rupture along with rupture uterus where bladder repair had been done. One woman had fistula present before hysterectomy. Most women had more than one complication. There were six maternal deaths, giving 5.35% maternal mortality. These resulted from hemorrhagic shock in three, endotoxic shock in two and DIC in one case. Perinatal mortality was 85% (90/106 cases) with only 16 live births.

Table 4. Causes of rupture uterus (n=84).

Causes	Number	(%)
Spontaneous obstructive rupture	63	75.0
CPD	44	
Neglected shoulder	16	
Hydrocephalus	3	
Traumatic	6	7.14
Internal podalic version	3	
Breech extraction	1	
Oxytocics	2	
Scar rupture	14	16.6
Previous cesarean section	12	
Previous repair of rupture uterus	1	
Previous repair of cornual pregnancy	1	
Unknown	1	1.19

Table 4. Maternal morbidity and mortality (n=112).

Causes	Number	(%)
Febrile morbidity	31	27.6
Wound infection	29	25.9
Burst abdomen	7	6.25
Paralytic ileus	12	10.7
Peritonitis	8	7.1
Vesicovaginal fistula	4	3.57
Maternal mortality	6	5.35
Endotoxic shock	2	
Hemorrhagic shock	3	
DIC	1	

Table 5. Comparison with other reported series.

Authors	Incidence (%)`	Major indications (%)		
		Rupture uterus	Atonic PPH	Placenta accreta
Gupta et al[5] (2001)	0.26	69.7	9.70	6.30
Kore et al[3] (2001)	0.18	38.20	32.30	5.88
Sinha[7] (2001)	0.38	69.92	9.83	12.57
Mukherjee[2] (2002)	0.15	38.30	14.90	8.40
Kanwar et al[6] (2003)	0.32	36.58	31.71	14.63
Praneshwari Devi[1] (2004)	0.07	23.00	19.20	26.90
Sahu[4] (2004)	0.20	38.88	27.70	13.88
Present series (2006)	0.73	75.00	8.03	5.35

Discussion

Ever since Edward Porro performed the first obstetric hysterectomy, the procedure has been widely used to save the lives of mothers. 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. The clamp, cut and drop technique is very helpful to increase the speed of the operation. It is important to ligate the stumps doubly and carefully in obstructive rupture as the tissues are edematous, friable and devitalized. Most of the hysterectomies in our series were performed by the senior residents on duty outside of routine working hours.

Table 5 shows a comparison of the incidence and indications of obstetric hysterectomy of various reported series from India. Incidence of emergency obstetric hysterectomy in our series is 0.73% which is much higher than other reported series; 0.07% by Praneshwari Devi et al [1], 0.15% by Mukherjee [2], 0.18% by Kore et al[3], 0.2% by Sahu et al [4], 0.26% by Gupta [5], 0.32% by Kanwar et al [6], and 0.38% by Sinha [7].

Rupture uterus was the commonest indication for emergency obstetric hysterectomy in our series accounting for 75% 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 almost similar to 69.9% reported by Sinha[7] and 69.7% reported by Gupta[5]. However, Sahu[4] and Mukherjee[2] reported a much lower incidence of about 38%. We found a high incidence of bladder rupture associated with rupture uterus in 16 out of 84 cases (19%). Kore et al[3] have reported only one case of bladder tear in their series of 13 rupture uterus (7.6%).

Atonic PPH (8.03%) was the second most common indication followed by placenta accreta (5.3%) in our series. This is in contrast to the study by Praneshwari Devi[1] where morbid adhesion of placenta (26.9%) was the commonest indication for obstetric hysterectomy, followed by atonic PPH (19.2%). Lau et al[8] have also reported morbid adhesion of placenta (32.7%) as the most common cause of hemorrhage and hysterectomy.

Reexploration for persisting hemorrhage has been reported in 8.8% (3/34) of the cases in the series by Kore et al[3] and in 12.5% of the cases in the series by Lau et al[8]. In our study only one woman (0.89%) required relaparotomy.

Maternal mortality rate in our series was 5.35% which is similar to the 6.01% reported by Sinha[7] and also to the 5.55% reported by Sahu[4]. Kanwar et al[6] have reported a higher mortality rate of 12.2% in their series of 41 cases whereas Praneshwari Devi[1] have reported no maternal death in their series of 26 cases. Morbidity and mortality are mainly due to the conditions leading to emergency hysterectomy and not due to the operative procedure itself [4,7]. 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. 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. Adequate training of resident doctors to perform obstetric hysterectomy in an emergency situation is of utmost importance.

Regular antenatal care, identification of high risk factors, close monitoring of labor, modern policy of active management of the third stage of labor, and timely decision to do cesarean to avoid difficult vaginal delivery can reduce the incidence of obstetric hysterectomy. 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.

References

1. Praneshwari Devi RK, Singh NN, Singh TD. Emergency obstetric hysterectomy. J Obstet Gynecol India 2004;54:127-9
2. Mukherjee P, Mukherjee G, Das C. Obstetric hysterectomy: A review of 107 cases. J Obstet Gynecol India 2002;52:34-6.
3. Kore S, Potwar S, Tamboli J et al. Obstetric hysterectomy analysis of 34 cases. J Obstet Gynecol India 2001;51: 94-6.
4. Sahu L, Chakravertty B, Panda S. Hysterectomy for obstetric emergencies. J Obstet Gynecol India 2004;54:34-6.
5. Gupta S, Dave A, Bandi G, et al. Obstetric hysterectomy in modern day obstetrics: A review of 175 cases over a period of 11 years. J Obstet Gynecol India 2001;51:91-3.
6. Kanwar M, Sood PL, Gupta KB, et al. Emergency hysterectomy in obstetrics. J Obstet Gynecol India 2003;53:350-2.
7. Sinha HH, Mishra MG. Hysterectomy for obstetric emergencies. J Obstet Gynecol India 2001;51:111-4.
8. Lau WC, Fung HY, Rogers MS. Ten years experience of cesarean and postpartum hysterectomy in a teaching hospital in Hong Kong. Eur J Obstet Gynecol Reprod Biol *1997;74:133-7.*