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Original Article

Obstetric hysterectomy: a life saving emergency

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Abstract

Objectives : To study and analyze obstetric hysterectomies done over a 2 year period in our teaching hospital, to suggest ways of avoiding them and improving their outcome. *Methods :* A prospective study of cases of emergency obstetric hysterectomy was done over a 2 year period. *Results :* Thirty obstetric hysterectomies were performed during the study period. There were 8362 deliveries, giving an incidence of 0.35%. The incidence of hysterectomy following vaginal delivery was 0.15% and that of cesarean hysterectomy was1.42%. Forty seven percent of the cases were unbooked. The incidence was highest in the age group of 26-35 years. It was more common in 3rd paras. Postpartum hemorrhage was the commonest indication contributing to 50% of the cases followed by rupture uterus (26.6%). There were three maternal deaths in the study and the fetal outcome was poor in 32%. *Conclusion :* Identification of high risk cases, early referral, timely performance of cesarean and resort to procedures like internal iliac artery ligation can reduce the incidence of obstetric hysterectomy.

Key words: obstetric hysterectomy, maternal mortality

Introduction

Obstetric hysterectomy is a hysterectomy performed on a gravid uterus during pregnancy, labor or puerperium. It was first done by Horatio Storer in 1869, revolutionizing the management of obstetric emergency so as to decrease maternal mortality[1]. The main indications viz., sepsis, uncontrolled hemorrhage, adherent placenta, and trauma are life threatening. Planned obstetric hysterectomy can be performed in conditions like invasive molar pregnancy, morbidly adherent placenta and pregnancy with carcinoma cervix. The incidence of obstetric hysterectomy varies from center to center depending on available facilities at peripheral medical centers viz., antenatal care, intranatal monitoring, obstetric skill, blood transfusion facility and efficient transport. It reduces maternal mortality; but resorting to it may be a difficult decision at times as patient's reproductive capacity is sacrificed. A review of 30 cases of obstetric hysterectomy over a period of 2 years is presented.

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Methods

Obstetric hysterectomy was carried out on 30 patients over a period of 2 years from 1st January, 2002 to 31st December, 2003 at our teaching hospital. The data was analyzed for demographic features, risk factors, indications, postoperative complications, morbidity, mortality, and perinatal outcome.

Results

There were 8362 confinements over the study period of

two years and 30 obstetric hysterectomies giving an incidence of 0.35%. Out of the 30 obstetric hysterectomies, 11 were after 7162 vaginal deliveries, an incidence of 0.15%, 17 were after doing 1200 cesarean sections, an incidence of 1.42% and two were in 453 uterine evacuations, an incidence of 0.4%. Increasing incidence of cesarean deliveries will increase the incidence of obstetric hysterectomy as well. Majority (53%) of the women were of 26 to 30 years age and 26.7% 31-35 years of age. This shows that more obstetric hysterectomies occur at fag end of obstetric career (Table 1). As many as 47% were unbooked for delivery and only 53% were booked. A third of the women were from urban area while 2/3^{rds} were from rural area indicating poor emergency care in rural areas. Total hysterectomy was possible in only 60% cases with fair general condition. Sub-total hysterectomy had to be done in 40% due to poor general condition of the women. Poor general condition reflects on morbidity and mortality.

Table 1. Age and parity (n=30).

Age (Years)	Number	Percentage
21-25	4	13.4
26-30	16	53.2
31-35	8	26.7
More than 35	2	6.7
Parity		
Primigravida	5	16.6
Gravida 2	9	30.0
Gravida 3	10	33.3
Gravida4	3	10.0
Grand Multi	3	10.0

Most common indication was post-partum hemorrhage (PPH). In 50% (15/30) there was mixed PPH; in the beginning the hemorrhage was traumatic due to extensive laceration but later as anoxia supervened there was secondary atonicity leading to mixed PPH. Rupture uterus was the indication in 26.6% (8/30) and in five of these eight cases obstructed labor was the causative factor. There were 10% of cases who underwent obstetric hysterectomy due to complication of difficult forceps delivery. Three cases had morbidly adherent placenta while one case each had inversion of uterus, invasive mole and secondary PPH, where fibroids were responsible for subinvolution of uterus and sepsis. One case had to undergo obstetric hysterecotmy following evacuation for missed abortion in second trimester (Table 2).

Table 2. Indication (n=30).

Indication	Number	Percentages
Rupture uterus	8	26.6
Scar dehiscence	2	
Obstructed labor	5	
Forceps delivery	1	
Only atonic postpartum hemorrhage	10	33.3
Cesarean delivery	2	
Vaginal delivery	7	
Postabortion	1	
Mixed postpartum hemorrhage	15	50.0
Broad ligament hematoma	5	
Extension of lower segment cesarean incision	7	
Cervicovaginal tear	3	
Morbidly adherent placenta	3	
Placenta percreta	1	
Placenta accreta	2	
Inversion Uterine	1	0.3
Invasive mole	1	0.3
Secondary postpartum hemorrhage	1	0.3

Risk factors play an important role in obstetric management. Previous cesarean increases the risk of repeat cesarean as well as the incidence of morbidly adherent placenta. Therefore the incidence of primary cesarean should be kept in check. Placenta related complications increase the risk of PPH. Similarly mismanaged labor and grand multiparity contributed towards atonic PPH (Table 3). All cases were liberally transfused with blood and blood products; 90% (27/30) received blood transfusion. Ten patients had to be given dopamine drip due to hypotension. Prostaglandins were used in 33.3% (10/30) cases to control atonic PPH. Internal iliac artery ligation was done in 16.6% (5/30) cases of PPH. B-Lynch suture was used in one and bilateral uterine artery ligation in one. 16.6% (5/30) cases needed intensive care unit admission for critical care. Maternal morbidity consisted of infection in four (13.33%), bladder injury in two (6.66%), in two cases of placenta accreta and percreta and coagulopathy in one (3.33%). Three (10%) women died due to hypovolemic shock. Out of these, two patients

were referred from far distance and one was from our hospital whose blood loss was underestimated. Perinatal loss resulted in nine cases, six due to accidental hemorrhage, two due to prematurity and one due to mismanaged labor. Average hospital stay was 13 days. Only three women were hospitalized for more than 20 days. Out of these, two had sepsis and one had deep vein thrombosis. Delay in transport and late referrals contributed to their moribund condition.

Table 3. Risk factors.

Risk Factors	Number	Percentage
Previous cesarean section	17	57
Grand Multi	3	10
Placenta praevia	5	17
Abruptio placentae	3	10.0
Vesicular Mole	1	3.3
Mismanaged labor	5	17.0

Table 4. Obstetric Hysterectomy in different studies.

Name of study	Incidence	Incidence in vaginal delivery	Incidence in cesarian section	Common indication	Maternal mortality
Hemali et al (2001)[2]	0.38	-	-	Rupture Uterus (69.9)	6.01
Mantri et al (1993)[3]	0.32	-	-	Rupture Uterus (67.2)	14
RK Praneshwari Devi et al (2004)[4]	0.0779	0.0106	0.39	Morbidly adherent placenta (26)	Nil
Agashe et al (1995)[5]	0.056	-	-	PPH(60)	20
Pawar (1998)[6]	0.09	0.0333	0.45	Rupture Uterus (40)	10
Sahu et al (2004)[7]	0.2006	-	-	Rupture Uterus (38.88)	5.55
Gupta et al (2001)[8]	0.22	0.26	1.5	Rupture Uterus(69.7)	10.9
Kore et al (2001)[11]	0.18	-	-	Rupture Uterus(38.2)	11.1
Pati S. et al (1998)[12]	0.146	-	-	Rupture Uterus (64.4)	16.4
Present study	0.35	0.15	0.42	PPH (50)	10

Discussion

Ever since Horatio Storer performed the first Cesarean hysterectomy in 1869, the procedure has been widely used to save maternal life[1]. The incidence of obstetric hysterectomy in present study is 0.35% which is similar to that of Sinha et al[2] (0.38%) and Mantri et al [3] (0.32%). But Praneshwari Devi et al [4], Agashe et al [5] and Pawar [6] reported very low incidence of 0.0779%, 0.056% and 0.09% respectively. Sahu et al[7] reported an incidence of 0.2006% and Gupta et al [8] 0.26%. Table 4 shows the incidence of obstetric hysterectomy in various studies. Rapidly increasing incidence of Cesarean section is a contributing high risk factor as reported by Prabhjot et al [9]. Stanco et al[10] found that previous cesarean section increases the risk of obstetric hysterectomy by 15 to 20 times. In the present study the incidence of obstetric hysterectomy following vaginal delivery was 0.15% and that following cesarean section was 0.42% i.e. approx. three times. A very high trend of obstetric hysterectomy following cesarean delivery is seen in the study of Praneshwari Devi et al [4] and of Pawar [6]. In the present study, PPH was the commonest indication (50% cases) as 57% cases had previous cesarean section leading to complications like trauma, placenta praevia and placenta accreta. This is comparable to the incidence of obstetric hysterectomy for PPH reported by Agashe et al[5]. In our study rupture uterus (26.6%) was the next most common indication. In other studies rupture uterus was commonest indication as shown by Sinha et al[2] (69.9%), Mantri et al[3] (67.28%), Pawar[6] (40%), Sahu et al[7] (38.8%), Gupta et al[8] (69.7%), Kore et al[11] (38.2%), and Pati et al[12] (64.4%). Morbid adhesion of placenta accounted for 10% of cases in the present study, whereas it accounted for 26% in the study of Praneshwari Devi et al[4] as shown in Table 4.

Though total hysterectomy is operation of choice, subtotal hysterectomy is quicker and hence preferable in moribund patient. In case of placenta praevia, total hysterectomy is usually mandatory. In the present study, 60% cases underwent total hysterectomy and 40% underwent subtotal hysterectomy. Kore et al[11] reported 38% total hysterectomies. Our study has a mortality of 10% similar to that reported by Gupta et al[8], Kore et al[11] and Pawar[6] (Table 4). It is not the operation but the condition for which obstetric hysterectomy is performed that is responsible for morbidity and mortality. Postoperative morbidity increases the duration of hospital stay and also admission to ICU for critical care. Emergency obstetric hysterectomy still remains a life saving procedure. The decision to perform this operation is difficult as one has to sacrifice the obstetric career of the patient. But it should not be delayed and the operation should be performed before the patient's condition deteriorates. Judicious use of oxytocics and alert supervision of labor reduces incidence of PPH and rupture uterus, and indirectly reduces the incidence of obstetric hysterectomy. Resort to ligation of uterine and internal iliac artery, and B-Lynch suture also decreases the incidence of obstetric hysterectomy. Good antenatal care, and identification and management of high risk cases can avoid catastrophic emergencies leading to obstetric hysterectomy.

Conclusion

MTP, STD and cesarean section increase the possibility of morbidly adherent placenta. When hysterectomy is required, specific surgical objective is total hysterectomy but a quick subtotal hysterectomy can save life in critical situations.

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