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HOPE AMIDST CRISIS: EMERGENCY OBSTETRIC HYSTERECTOMY

Obstetrics & Gynaecology

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ABSTRACT

Aim: To evaluate the incidence, cause, age distribution, parity status, risk factors associated with emergency obstetric hysterectomy. **Methodology:** Medical records of 22 patients from the year 2020, till date, who had undergone emergency hysterectomies were evaluated retrospectively. The main outcome measures were the factors associated with obstetric hysterectomy as well as the indications for the procedure. **Results:** During the study period there were 11,511 deliveries and 5398 of them (46.8%) were by caesarean section. In this period, 22 emergency hysterectomies were performed, with an incidence of 1 in 278 vaginal deliveries and 1 in 245 caesarean sections. All of them were due to postpartum haemorrhage. The most common underlying pathologies were Atonic PPH (59%) and Placenta Accreta (27.2%). There was no maternal mortality. **Conclusions**: Obstetric hysterectomy, although curtails the future childbearing potential of women, yet in many cases saves the life of the Mother. Hence, can be called: Hope Amidst Crisis.

KEYWORDS

Obstetric hysterectomy, caesarean hysterectomy, postpartum haemorrhage

INTRODUCTION:

Emergency hysterectomy in obstetric practice was first proposed in 1869, with no desirable results. It was followed seven years later by a successful operation, the first caesarean subtotal hysterectomy in which case the mother and infant survived. Hysterectomy should be considered only when all conservative measures fail to achieve haemostasis following a life-threatening postpartum haemorrhage. Most of the previous research studies on obstetric hysterectomy include only cases of hysterectomy done during the peripartum period. In this study we included all cases of Obstetric Hysterectomy (OH) from conception till the end of the puerperium period (42 days), so we tried to describe all aspects of obstetrics hysterectomy done for different indications during the study period at our care centre in Maharashtra, India.

METHODS:

Medical records of all patients who had undergone emergency hysterectomy following vaginal or caesarean delivery, due to postpartum haemorrhage, between January 2020 and May 2024 were scrutinised and evaluated retrospectively in Cama and Albless Hospital, Mumbai. There were no elective obstetric hysterectomies performed for sterilisation or any other gynaecological condition during the study period.

Inclusion Criteria

Women who underwent obstetric hysterectomy from conception, post-normal delivery or caesarean section during the study period. Also, women who delivered outside the hospital but were referred to for obstetric complications and warranting obstetric hysterectomies were included. A total of 22 eligible women who fulfilled the selection criteria were retrospectively enrolled after obtaining prior permission from the Medical Record Department (MRD).

The data was retrieved and evaluated for age parity, mode of delivery, indication for obstetric hysterectomy, risk factor in antenatal or intra-natal care, and fetomaternal outcome

Statistical Analysis

The data obtained was coded and entered into Microsoft Excel Worksheet. The data was analysed using statistical software SPSS version 20.0. The data was expressed in terms of numbers and percentages

RESULTS :

1. Incidence

Out of 11,511 total deliveries during our study period, there were a total of 22 patients who underwent obstetric hysterectomy. Incidence is 0.191%. Four cases out of 6043 vaginal deliveries (0.065%) and 16 cases out of 5328 caesarean deliveries (0.29%) required OH.

Table no. 1 : Incidence Of Obstetric Hysterectomy And Mode Of Delivery

Type of delivery	Total no of patients	OH	Incidence (%)
Normal vaginal delivery	6,043	04	0.065%
Cesarean section	5,328	16	0.296%
Other (molar/ ectopic pregnancy)	140	2	1.42%
Total	11,511	22	0.191%

2. Age and Parity

A maximum number of patients, 11 out of 22 (50%) were between 30 - 39 years age group, there were 9 out of 22 (40.9%) patients in 20-29 years age group, 2 out of 22 (9%) patients in 40 years and above age group. Previous two caesarean delivery had higher incidence of OH(40.9%)

Table no.2 : Obstetric Hysterectomy and Age

Age (in years)	No. of cases	Incidence (%)
20-29	09	40.9
30-39	11	50
40 and above	02	9

Table no. 3: Obstetric Hysterectomy and Parity

Parity	No. of cases	Incidence (%)
P1L1	01	4.5
P2L2	09	40.9
P3L3	08	36.3
More than OR equal to P4L4	04	18.1

3. Time of OH :

Table no. 4: Obstetric Hysterectomy and Natal Period

Time of OH	No. of cases	Incidence (%)
In prelabour or labour	16	72.7

PNC	06	27.2

4. Indications for Obstetric Hysterectomy

The most common indication in the study was Postpartum haemorrhage. 13 patients of atonic PPH required an obstetric hysterectomy, the incidence being 59%. The second most common indication was placenta accreta (27.2%).

Table no. 5 : Indications for Obstetric Hysterectomy

Indications	No. of cases	Percentage (%)
Atonic PPH	13	59
Placenta Accreta	06	27.2
Placenta Percreta	01	4.5
Abruptio placenta	01	4.5
Other		
Ruptured cornual ectopic	01	4.5

5. Risk Factor :

Most of the patients who underwent OH had more than one risk factor. The most common risk factor was the previous 2 caesarean delivery, there were 6 (27.2%) patients with prior 2 caesarean delivery, 4 patients (9%) with adherent placenta. Thus, out of 22, 8 patients had previously scarred uterus. Other common risk factors were, placenta previa (18%), abruptio placenta (4.5%), pregnancy-induced hypertension (4.5%), anaemia (9%), acute febrile illness (4.5%), home delivery (4.5%), etc.

There was only one patient with no risk factor who required an obstetric hysterectomy for Atonic PPH.

Table no. 6. : Risk factors for Obstetric Hysterectomy

Obstetric risk factor	Number	Percentage (%)
Previous 1 caesarean section	2	9
Previous 2 caesarean section	6	27.2
Placenta previa	2	9
Adhered placenta	4	18.1
Abruptio placenta	1	4.5
Acute febrile illness	1	4.5
Pregnancy-induced hypertension	1	4.5
Anaemia	2	9
Home delivery	1	4.5
Nil	1	4.5

All hysterectomies, caesareans and postpartum, were performed to control massive postpartum haemorrhage when conservative measures had failed. None of the patients had a history of coagulopathy, detected with standard tests for coagulation.

6. Atonic PPH and other Risk Factors association

The most common indication for hysterectomy was atonic PPH (59%), followed by placenta accreta (27.2%). Prior caesarean delivery was the main risk factor for the development of placenta accreta. A history of caesarean section was the main risk factor for both placenta accreta and placenta previa, which led to obstetric hysterectomy. None of our patients was taken back to the theatre for postoperative bleeding. There were no maternal deaths.

Table no. 7 : Atonic PPH and other Risk Factors association

No. OH	AGE (yrs)			PARITY				MODE OF DELIVERYMODE OF DELIVERY			NATAL PERIOD	
	20-29	30-39	40 above	P1L1	P2L2	P3L3	P4L4above	Vaginal Delivery	Caesarean section	Other	Preabour /Labour	PNC
1		1					1			1	1	
2		1				1			1		1	
3	1			1					1		1	
4			1		1			1				1
5	1					1		1				1
6		1			1			1				1
7		1			1				1		1	
8		1					1	1				1
9	1					1			1		1	
10	1					1				1		1	
11	1					1				1		1	
12		1				1			1				1
13		1					1			1		1	
Total	5 38%	7 53%	1 7%	1 7%		6 46%	4 30%	2 15%	5 38%	7 53%	1 7%	8 61%	5 38%

7. Placenta Accreta spectrum and other Risk Factor association

Table no. 8 : Placenta Accreta spectrum and other Risk Factor association

No. OH	AGE (yrs)			PARITY				MODE OF DELIVERY			NATAL PERIOD	
	20-29	30-39	40 above	P1L1	P2L2	P3L3	P4L4above	Vaginal Delivery	Caesarean section	Other	Preabour /Labour	PNC
1		1				1			1		1	
2	1				1				1		1	
3		1					1		1		1	
4			1		1				1		1	
5	1				1			1				1
6	1					1			1		1	
Total	3 50%	2 33%	1 16%		3 50%	2 33%	1 16%	1 16%	5 83%		5 83%	1 16%

DISCUSSION:

Postpartum hysterectomy is performed in the setting of life-threatening haemorrhage and its incidence varies in different hospitals ranging from 0.03% to 0.33%. The incidence of 0.19% in this series compares favourably with other reported incidences. However, it is higher than those reported in the recent literature. There are many factors affecting the incidence of obstetric hysterectomy, such as placental disorders, ruptured uterus, uterine atony, intrauterine death, various sites of infection, uterine fibroids, and disseminated intravascular coagulopathy.

Uncontrollable haemorrhage due to an atonic PPH was the commonest reason for obstetric hysterectomy in our hospital (59%) followed by placenta accreta (27.2%). Previous caesarean section and placenta previa, especially when both coexist, are the main risk factors for the development of placenta accreta. The incidence of placenta accreta appears to be increasing and this increase is proportional to the number of previous caesarean sections in patients with placenta previa.

Recent studies have indicated that abnormal adherent placentation is replacing uterine atony as the most common indication for emergency postpartum hysterectomy (13,19). Kastner et al. analysed 47 cases from 1991 to 1997, with placenta accreta accounting for 48.9% of the cases; 51.1% of the women in their study had had a previous caesarean delivery. Zelop et al. analysed adherent placentation accounting for 64% of the cases; 59.8% had a previous caesarean delivery. In our study, in 92% of cases of placenta accreta, there was a history of previous caesarean section. Given the association between caesarean delivery and abnormal placentation (20), our 46.8% caesarean section rate seems likely to influence the incidence and indication for emergency hysterectomy.

Our study, in agreement with the above-mentioned studies, reveals that placenta accreta is now the second most common cause of emergency postpartum hysterectomy. This is probably secondary to the increase in the number of patients with previous caesarean sections. Placenta previa and prior caesarean section are associated with placenta accreta. Identification of the antenatal risk factors can alert the obstetrician that an emergency hysterectomy may be needed. Ultrasound, colour flow Doppler, and magnetic resonance imaging are useful to identify high-risk patients. If an abnormally adherent placenta is diagnosed or suspected, preparation for delivery should include provisions for the possibility of caesarean hysterectomy. Antenatal consultation and/or referral should be considered for suspected or diagnosed placenta accreta. Before definitive hysterectomy, other treatment modalities such as intramuscular prostaglandin, rectal misoprostol, etc. When medical therapy fails, patients of low parity who want to bear further children can be managed with ligation of the uterine or utero-ovarian artery, infundibulopelvic vessels, or hypogastric arteries. The complications of caesarean sections should always be kept in mind

when performing caesarean delivery and the procedure should be undertaken only when the benefits outweigh the potential risks. In all cases, antibiotics were administered and the febrile morbidity was low. Obstetric hysterectomy is a high-risk operation because of the distorted anatomic relations of the uterus with the adjacent organs, the vascularity, the size, and especially the pressure of time for a quick operation. The early involvement of an experienced consultant obstetrician is critical.

Table no. 9 : Comparision of Indication of Obstetric Hysterectomy in different studies

	Postpartum Hemorrhage	Septic Abortion	Rupture Uterus	Morbidly Adherent Placenta
Bhat et al (2016)[7]	40%	-	20%	20%
Mukherjee et al(2016)[8]	-	-	45.45%	30.3%
Jaya Chawla et al(2015)[12]	25%	-	17.9%	21.4%
Jadav et al (2014)[9]	62%	3.45%	31%	-
Shaikh et al(2010)[1]	-	-	51.22%	9.76%
Kant Anita et al (2005)[10]	41.46%	7.32%	36.58%	12.19%
Present study	45.45%	9.1%	36.4%	12.19%

CONCLUSION:

Obstetric hysterectomy, although curtails the future childbearing potential of women, yet in many cases saves the life of the Mother. Hence can be called**: Hope Amidst Crisis** While atonic post-partum haemorrhage (PPH) remains a predominant cause of obstetric hysterectomy, the availability of recent uterotonics in the market presents a promising opportunity. These advancements offer for more effective management and prevention of atonic PPH, reducing the need for emergency OH and improving maternal outcomes. Caesarean sections and their sequelae like morbidly adherent placenta can be reduced by careful selection of patients for caesarean delivery.

Proper antenatal care, delivery by trained personnel, and timely referral of high-risk cases to higher centres are all needed to improve the maternal health of our country.

Conflict of interest: None
Disclaimer: Nil

Abbreviations :
OH : Obstetric Hysterectomy
PPH : Post Partum Haemorrhage

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