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Original Research Article Emergency Obstetric Hysterectomy: A Retrospective Analysis

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ABSTRACT:
INTRODUCTION:
Uterine atony and Uterine rupture were considered most common causes for emergency obstetric hysterectomy, but nowadays Morbidly adherent placenta is seen as most emerging indication for obstetric hysterectomy. Objective of this study is to evaluate the incidence and various indications of performing emergency obstetric hysterectomy and its maternal outcome.
MATERIAL AND METHOD-
It is retrospective data collected from operative register and case files in government medical college Akola, Maharashtra on 25 obstetric hysterectomies performed for various indications over a period of June 2018 to April 2021.
RESULTS-
During the study period, Incidence of obstetric hysterectomies in this tertiary care centre is 2.1/ 1000 deliveries.Morbidly adherent placenta is most common indication for performing obstetric hysterectomy followed by PPH and Placenta previa. Rupture uterus was countable for 10.34% of obstetric hysterectomies. Postoperative paralytic ileus and postoperative fever were the most common complications encountered. There was 1 death reported in this data.
CONCLUSION-
Obstetric hysterectomy is a lifesaving procedure for obstetric complications specially when medical and other surgical conservative method fails. Our results demonstrated an increasing trend in the rate of Obstetric hysterectomy due to an increasing rate of previous LSCS, emphasizing the importance of the mode of delivery.

I. INTRODUCTION-

Obstetric hysterectomy is performed during caesarean section or in puerperium period. There are various indications for obstetric hysterectomy, atonic PPH and uterine rupture are one of the common indications for emergency obstetric hysterectomy until now. (1) But because of the increasing caesarean rate in modern era and the concomitant increase in rate of placenta praevia and placenta accreta the incidence of emergency Obstetric hysterectomy is increasing. (2)

Emergency hysterectomy performed most of the time only when conservative measures for PPH such as use of oxytocin, misoprostol, carboprost, bimanual uterine compression, condom catheter balloon, and noninflatable antishock garment fails.

This is retrospective analysis performed in our centre which is tertiary care centre to evaluate incidence, indications and maternal outcome of all patients who undergone obstetric hysterectomy both caesarean hysterectomy and puerperium hysterectomy.

II. MATERIAL AND METHODS-

This is retrospective study of women requiring emergency obstetric hysterectomy over a period of June 2018 to April 2021 in the Department of Obstetrics and Gynaecology, Government Medical College and Hospital, Akola, Maharashtra, India.

Medical records of all patients who had undergone emergency hysterectomy is taken from operative registry and case files between June 2018 to April 2021 and evaluated retrospectively. Patients of caesarean hysterectomy and puerperal hysterectomy both are included.

Incidence of hysterectomy, Maternal age and Parity, Indications, postoperative complications, blood transfusion amount and maternal outcome were noted.

III. OBSERVATIONS AND RESULTS-

1.INCIDENCES-

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Total number of deliveries conducted in GMC Akola during 3year period was 13603 in GMC Akola, Maharashtra.
Out of 13603 pregnancies, the incidence of obstetric hysterectomy in vaginal delivery was 0.045% and 0.27 % in caesarean hysterectomy. The overall incidence was 0.21 (2.1 per 1000 pregnancies)

Table 1. Incidences Of EOH

Mode of Delivery	Number of Patients	EOH	%
NORMAL VD	4386	2	0.045
CAESAREAN SECTION	9162	25	0.27
HYDATIDIFORM MOLAR PREGNANCY	55	2	3.63
TOTAL	13603	29	0.21

2.AGE AND PARITY-

Age(years)	Parity					
	P0	P1	P2	P3	P4	P5
20-24		2		1		
25-29	1	6	10	1		
30-34		1	1	1	1	
35-40		1	1		1	1

Table 2. Relation to Age and Parity

Out of total 29 cases, youngest patient to undergo hysterectomy is 23 years. And oldest is 36 years. Majority of women belonged to 25 to 29 years of age.

3.INDICATIONS OF EMERGENCY OBSTETRIC HYSTERECTOMY IN OUR SETUP

Table 3. Indications of EOH

Indications	Number of patients	Percentage %
ATONIC PPH	6	20.68
RUPTURE UTERUS	3	10.34
PREVIOUS SCAR WITH PLACENTA PREVIA	3	10.34
PLACENTA PREVIA	3	10.34
MORBIDLY ADHERANT PLACENTA	7	24.13
ABRUPTION WITH PPH	4	13.79
PUERPERAL SEPSIS	1	3.4
INVASIVE MOLE	2	6.8

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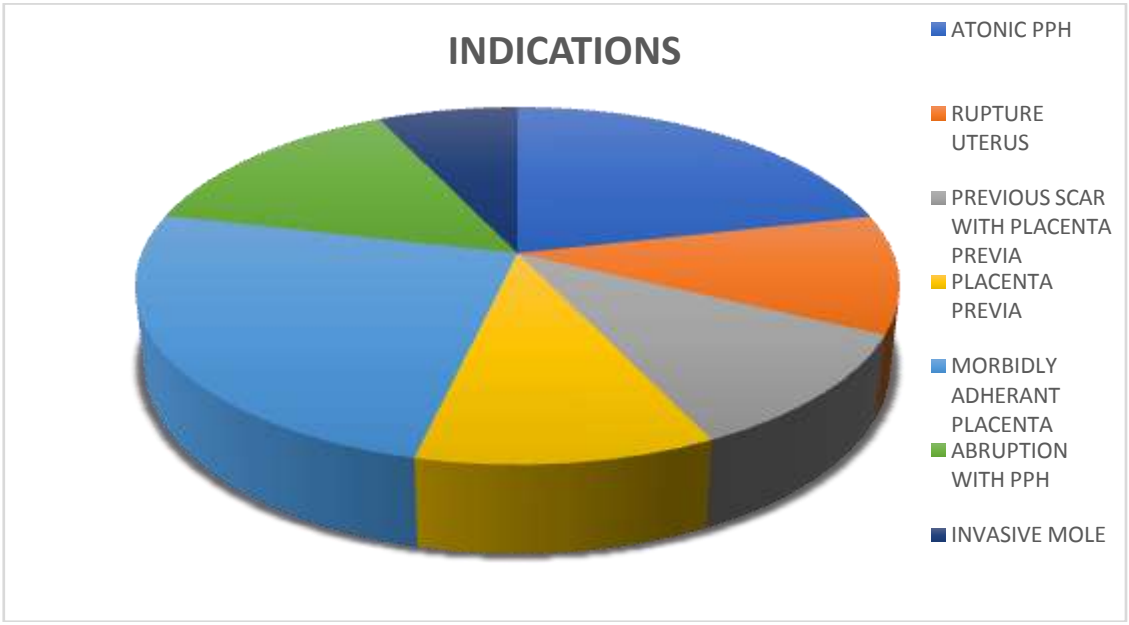

Chart 1. Indications of EOH.

The commonest cause encountered in our study to undergo Obstetric Hysterectomy is Morbidly adherent Placenta followed by atonic PPH.

The atonic PPH was the cause associated with 6 cases and was associated with previous caesarean section in 2 cases and others associated with anaemia and Preeclampsia respectively. 2 cases of atonic PPH with preeclampsia required obstetric hysterectomy underwent surgical techniques intraoperatively like Uterine artery ligation, Internal iliac artery ligation, B lynch compression suture and in 2 cases bakari balloon tamponade was used but due to failure of these conservative and medical management obstetric hysterectomy was the last resort.

There was one case of Puerperal sepsis which requires obstetric hysterectomy on postpartum day 18 due to failure of medical management and severe puerperal sepsis.

Out of 55 molar pregnancy,2 cases required obstetric hysterectomy due to invasive mole. Around six cases of obstetric hysterectomy including previous scar with placenta previa due to torrential bleeding from the placental bed after removal of placenta.

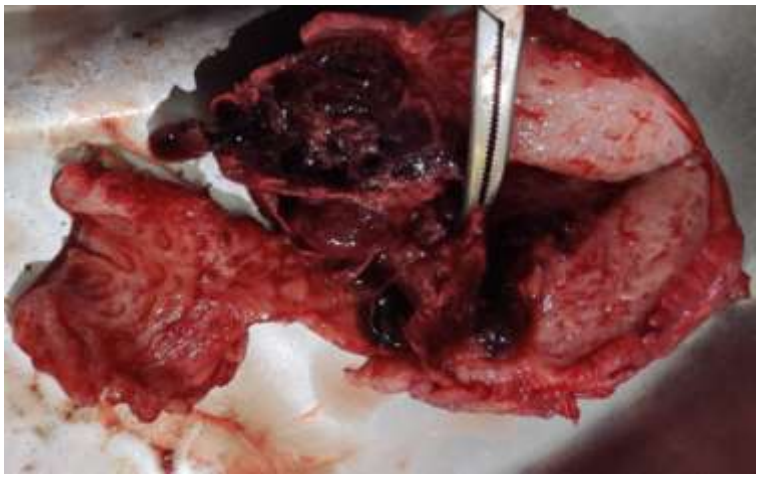

Figure 1. Invasive Mole

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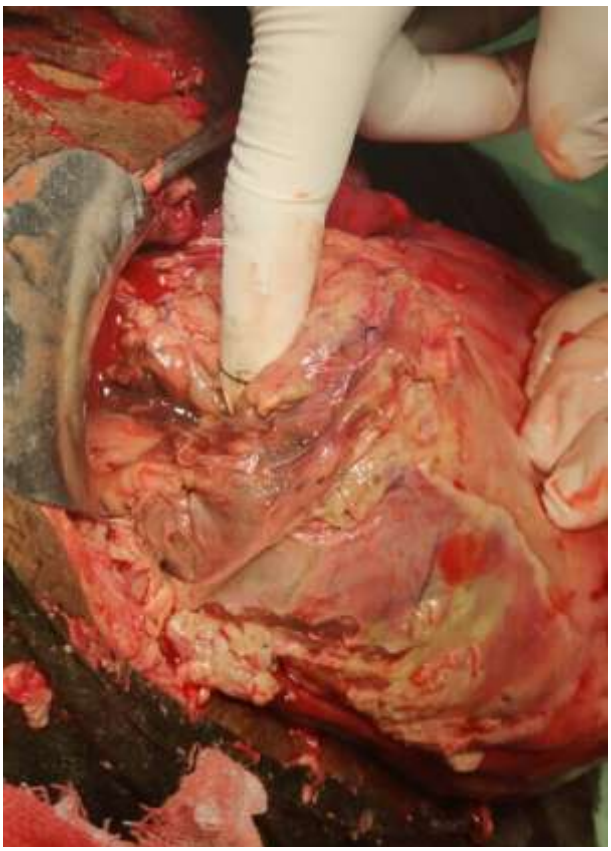

Figure 1.Postpartum Sepsis

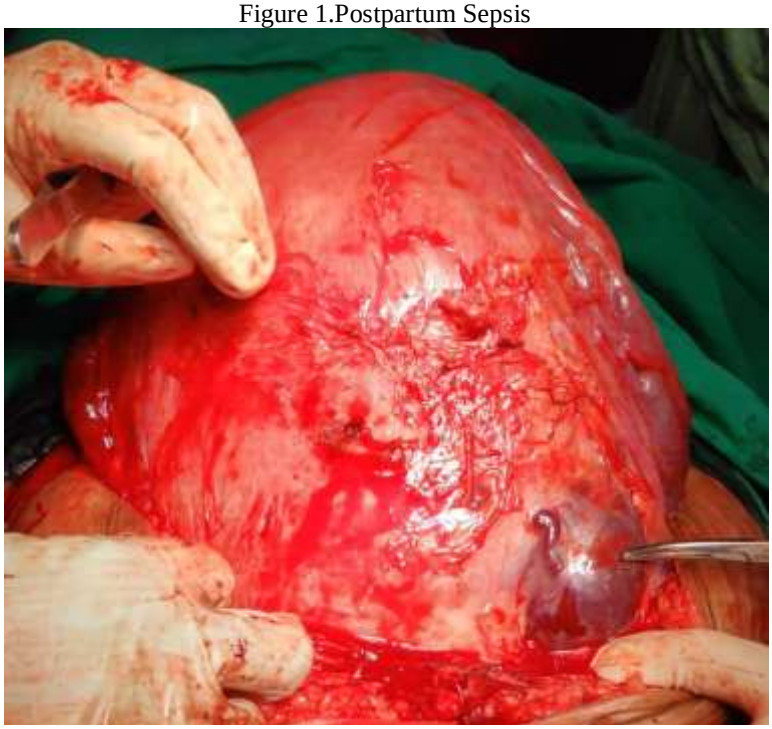

Figure 2.Placenta percreta

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4.POSTOPERATIVE COMPLICATIONS AS MATERNAL OUTCOME-

Table 4. Complications

CAUSES	NUMBER	PERCENTAGE
WOUND INFECTION	1	3.4
FEVER	5	17.24
BLADDER INJURY	4	13.7
PARALYTIC ILEUS	6	20.6
SEPTICAEMIA	1	3.4
DIC	4	13.7
MORTALITY	1	3.4

Paralytic ileus was most common intraoperative complication followed by fever. There is mortality of one patient postoperatively due to DIC.All patients received blood transfusion according to blood loss.

5.TOTAL TRANSFUSION OF BLOOD PRODUCTS

Table 5. Transfusion of blood and blood products

Indication	Number	Packed Cell Units	Fresh Frozen Plasma	Platelet unit
Uterine Rupture	3	5	2	
Atonic PPH	6	8	14	
Placenta accreta Spectrum	7	8	2	
Abruptio Placentae	4	11	9	4
Placenta Praevia	6	26	8	-
Sepsis	1	2		
Total	27	60	35	2

6.TYPES OF HYSTERECTOMY

Table 6. Types of Hysterectomy

Types of hysterectomy	Number	Percentage
Subtotal hysterectomy	2	6.8
Total hysterectomy	27	93.1

Maximum total hysterectomies have been done.2 cases requires subtotal hysterectomy done in patients of post vaginal delivery atonic PPH.

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6.ASSOCIATION WITH PREVIOUS SCAR

Table 7. Association of previous scar and EOH

Previous scar	Atonic PPH	Placenta previa	Placenta accreta spectrum	Rupture uterus	TOTAL	PERCENTAGE %
One	1	2	4	2		
Two	1	1	3	1		
Total	2	3	7	3	15	51.7
Percentage	7.4	11.1	25.9	11.1		

Out of total 29 patients 15 patients were previous scar patients.51.7 % of cases of previous scar patients requires obstetric hysterectomies due to atonic PPH (2 cases), Placenta Previa (3 cases), Placenta accrete spectrum (7 cases), Rupture Uterus (3 cases) respectively.

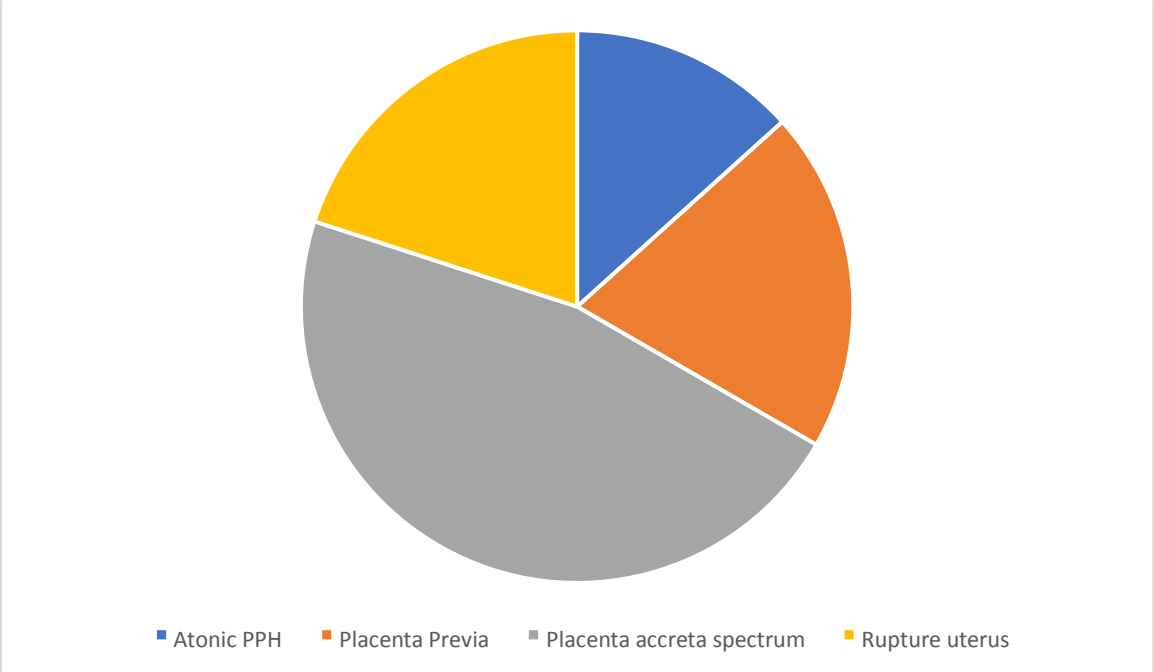

Chart 2. Association of Previous Scar with EOH

IV. DISCUSSION-

Incidence of emergency obstetrical hysterectomies in our centre is 0.21 % (2.1 per 1000 deliveries) within 3 years of duration which is slightly lower than study conducted by Behera R et al(3) ,Singh G et al(4) and slightly higher than George Daskalakis et al(5), Sturdee and Rushton(6) who reported an incidence of Obstetric hysterectomies as 0.265%,0.26%,0.14% and 0.05% respectively as our institute receives referral cases and high risk pregnancies from peripheral institute.

Mean age who underwent obstetric hysterectomy is 25 to 29 years and para 2 has undergone maximum number of EOH (41.7%). Praneshwari Devi et al study shows parity 3 and more having maximum EOH while commonest age group was 26 to 29 years, in accordance with my study. (7)

Most common indication for OH in our study is morbidly adherent placenta (24.13 %) followed by atonic PPH (20.68 %). Decrease in PPH is due to decreasing home deliveries and efficient management options for control of PPH like Bakri balloon. Due to a rise in caesarean sections in modern obstetrics the incidence of morbidly adherent placenta has also increased. This

rise in incidence is corresponding to the study by Praneshwari Devi et al.(7) and George Daskalakis et al.(5) Incidence of PPH in our study is higher than Praneshwari Devi et al(16%)(7) and lower than Kant et al(41.6%).(8)

Most common complication encountered is paralytic ileus (20.6%) followed by fever (17.24%). Other complications like bladder injury (13.7%), DIC (13.7%), wound infection (3.4%), septicaemia (3.4%) and mortality of 3.4% seen in our study. Study by Kant et al. shows postoperative shock, pyrexia, paralytic ileus and wound infection were common complications.(8) The study conducted by Baheti S et al. shows most common postoperative complication as haemorrhagic shock(61.1%) followed by bladder injury(27.7%).(9)

In our study, 93.1 % patients required total hysterectomies while only 6.8% patients required subtotal hysterectomies done post vaginal deliveries for atonic PPH. The study conducted by Nooren M et al. shows 60% patients required total hysterectomies and 40% required subtotal hysterectomies.(10)Baheti S et al. study shows 66.6% patients requires total hysterectomies and 33.33% required subtotal hysterectomies.(9)

There is high association of obstetric hysterectomies in previous scar patients due to various indications like Atonic PPH(7.4%), placentapraevia (11.11%), Placenta accrete spectrum (25.9%) and Rupture Uterus(11.11%).Total incidence of Obstetric Hysterectomies in previous scar patients is 51.7%.The study conducted by Higgins et al.(11) shows incidence of placenta accreta spectrum in previous scar patients as 2.37 per 1000 parous women. which is in accordance to our study.

Table 8. Comparison with other studies

Study	Total Incidence	Common Indication
Praneshwari Devi et al (2004) (7)	0.07	Morbidly adherent placenta
Behera et al (3)	0.265	Uterine Rupture
George Daskalakis et al(5)	0.139	Placenta accreta
Sturdee and Rushton (6)	0.05	Placenta accreta
Baheti S. et al(9)	0.52	Atonic PPH
Present Study	0.21	Morbidly adherent placenta

V. CONCLUSION-

EOH isalife saving measure in modern obstetrics, even if it compromises future fertility of a woman and increases morbidity but, curtails mortality.

There is increasing trend of caesarean section nowadays so incidence of placenta previa and morbidly adherent placenta is rising and most of the cases require emergency obstetric hysterectomy.

To perform EOH, multidisciplinary approach is needed including a senior and expert Obstetrician, senior Anaesthetist, Surgeon, Urologist, ICU setup and 24-hour blood bank facility should be there.

Surgeon's experience and skill needed to perform such difficult procedure and decisions concerning the type of operation are the deciding factors in the prognosis.

DECLARATIONS
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Conflict of interest: None
Ethical approval: Yes

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ABBREVIATIONS

1.EOH-emergency obstetric hysterectomy
2.VD-Vaginal delivery
3.PPH-postpartum haemorrhage
4.DIC-disseminated intravascular coagulation.