**Original Research Paper** 



# A STUDY OF PERIPARTUM EXPLORATORY LAPAROTOMY IN A TERTIARY CARE TEACHING HOSPITAL

Gynaecology

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**ABSTRACT** BACKGROUND: Emergency peripartum exploratory laparotomy is a major surgical procedure invariably performed in thesetting of life threatening conditions during or immediately after abdominal and vaginal deliveries. Tertiary healthcare centers play a prime role in such cases to avoid any mishap. In spite of that sometimes sudden such incidences in the form of maternal morbidity or mortality occur which makes us think upon.

**METHODS:** A retrospective study was conducted in Indore Madhya Pradesh, over a period of 18 months in the Department of OBGY i.e. between September 2019 to February 2021 of the cases who required peripartum exploratory laparotomy.

**RESULTS:** Out of the total deliveries in our hospital and cases referred from outside hospital from September 2019 to February 2021, 75 cases required peripartum exploratorylaparotomy. We found that postpartum hemorrhage is the most common cause requiring peripartum exploratorylaparotomy. Other causes requiring peripartum exploratory laparotomy are burst abdomen, puerperal sepsis, rectusmuscle hematoma etc.

**CONCLUSIONS:** In the era of modern obstetrics, to fulfill the main objective of obstetrics of having healthy mother andhealthy baby at the end of pregnancy, peripartum exploratory laparotomy is a procedure done as an extreme measureto reduce maternal mortality and morbidity. We observed that majority of the patients who required exploratorylaparotomy in peripartum period suffered morbidity in the form of prolonged hospital stay or transfusion of blood orblood products, need of ventilator support or ICU care. Though the patients suffered morbidity, mortality could be prevented by timely intervention in majority of the patient.

## KEYWORDS : Periparturm, ICU, Mortality

## **INTRODUCTION:-**

Peripartum care is important to patients safety as there are two patients in one. However, identifying and assessing patients at risk and appropriate and timely management would results in ensuring a better maternal and perinatal outcome in this difficult situation. Emergency peripartum exploratory laparotomy is a major surgical procedure performed in the setting of life threatening conditions during or immediately after cesarean and vaginal deliveries. Postpartum hemorrhage is one of the leading cause of maternal morbidity and mortality accounting for 25% of cases of maternal mortality(1)Peripartum exploratory laparotomy is the life saving procedure in modern obstetrics and is generally performed when all conservative measures have failed in the setting of life threatening condition. Tertiary health care centers play a prime role in such cases to avoid any complication. In spite of that sometimes sudden complications in the form of maternal morbidity or mortality occur which makes us think upon. So, we conducted a retrospective study of the patients who required exploratory laparotomy after giving birth either vaginally or by caesarean section. It is found that most common cause for peripartum exploratory laparotomy was postpartum haemorrhage. All conservative measures like uterotonic drugs, temponad methods and hemostatic sutures to control bleeding are initially tried before taking patient for emergency pertpartum hysterectomy.(2-6) In cases not responding to conservative measures emergency obstetric hysterectomy is the only way to save life of the patient.

## METHODS:-

A retrospective study was conducted In MYH group of hospitals Indore, a tertiary health care centre over a period of 18 months in the department of OBGY i.e between September 2019 to February 2021 of the cases who required peripartum exploratory laparotomy. We collected the medical information like demographic details, previous obstetric history, details of current pregnancy, mode of delivery, hospital stay, indications for exploratory laparotomy and maternal outcome arising from it. The study included all the cases of normal vaginal delivery, assisted vaginal deliveries and caesarean section conducted in our center and cases referred from peripheries

## **RESULTS:-**

Out of the total deliveries in our hospital and cases referred from outside hospital from September 2019 to February 2021 i.e a span of 18 months including cases under study, 75 cases required peripartum exploratory laparotomy. Among the patients requiring peripartum exploratory laparotomy (75 cases), 12% were primipara (09 cases) and 88% (66 cases) of the cases were multipara (Table 1).

Table 1: Distribution o	f cases c	according	to parity
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Parity	Number	Percentage
Primipara	09	12
Multipara	66	88
Total	75	100

74.6% of the cases (56 cases) requiring exploratory laparotomy during cesarean section and 17.3% cases(13 cases) were post LSCS. One case was after vaginal delivery, 2 were VBAC and 3 were PNC cases. (Table 2).

#### Table 2: Distribution of cases according to mode of delivery

Mode	Number	Percentage
Vaginal	01	1.3
LSCS	56	74.6
ANC	03	04
Postop LSCS	13	17.3
VBAC	02	2.6
TOTAL	75	100

It was found that there were 10 cases (11.3%) of atonic postpartum haemorrhage which required emergency laparotomy to save the patient from life threatening postpartum haemorrhage. There were 02 cases of burst abdomen that accounted for 2.6 % cases requiring laparotomy following caesarean section. Placental factor was the cause of laparotomy in 16 cases contributing to 19.9% of total cases. Out of these 16cases, 5 cases were of abruption placentae, 6 cases were placenta accrete, 4 cases were morbidly adherent placenta and 1 case was of retained placenta that required emergency laprotomy. We had a total of 28 cases of rupture uterus, 03 cases of bladder rupture alone and 09 cases of both rupture uterus with rupture bladder. There was 1 case of puerperial sepsis that needed exploratory laparotomy with pus drainage from the abdominal cavity. There was a case of haematoma in rectus muscle and 2 cases of uterovesicle hematoma following caesarean section that required emergency laparotomy for drainage of haematoma and haemostasis was achieved. There was a patient who developed subacute intestinal obstruction following full term normal delivery and emergency laparotomy was done. There were band adhesions and adhesiolysis was done.

Table 3:Distribution of cases according to Cause of peripartum exploratory laparotomy

Causes	Number	Percentage
Atonic PPH	10	11.3
Abrupto placenta	05	6.6
Placenta accrete	06	8
Morbidly adherent placenta	04	5.3
Retained placenta	01	1.3
Rupture uterus	28	37.3
Bladder rupture	03	4
Rupture uterus +bladder rupture	09	12
Secondary hemorrhage	01	1.3
Muscle hematoma	01	1.3
Burst abdomen	02	2.6
PP+Bladder rupture	01	1.3
Utervovesicles hematoma	02	2.6
Puerperal sepsis	01	1.3
Subacute intestinal band adhesions	1	1.3
Total	75	100

Out of 75 cases of exploratory laparotomy, 30 patients of peripartum exploratory laparotomy required obstetric hysterectomy. i.e 40% cases required obstetric hysterectomy as a last resort in life threatening postpartum haemorrhage. In 23 cases uterine repair done, in 2 cases bladder repair done and in 4 cases both uterine and bladder repair was done. Two patients of burst abdomen were treated with rectus gape resuturing and closure of wound gape. In 1 case exploratory laparotomy with drainage of pus in the peritoneal cavity was done. In 1 case of muscle haematoma, exploratory laparotomy with haematoma drainage and repair was done. In one case Haultain repair for correction of uterine inversion performed. Reexploration followed by uterovesicle hematoma drainage and repair done in 2 cases.

Table	4:	Distribution	of	cases	according	to	surgical
interve	enti	on					

INTERVENTION	NUMBER	PERCENTAGE
Uterine repair	23	30.6%
Uterine repair with bladder repair	04	5%
Bladder repair	02	2.6%
Obstetrics hysterectomy	30	40%
Obstetrics hysterectomy with	07	9%
bladder repair		
Rectus muscle sheath hematoma	01	1.3%
Reexploration for uterovesical	02	2.6%
hematoma		
Lscs with ovarian tumor dermoid cyst	01	1.3%
Haultainrepair for correction of	01	1.3%
inversion		
Negative laparotomy	00	00
Explolaprotomy with repair of	02	2.6%
burst abdomen		
Explolaprotomy with pus drainage	01	1.3%
Explolaprotomy with adhesiolysis	01	1.3%
Total	75	100%

Outcome of the patients requiring exploratory laparotomy is of great importance to access the efficacy of health care delivery system. In present study, we found that out of 75 cases requiring exploratory laparotomy, there were 27 cases (36%) in which the baby and mother recovered well and were discharged in good health. There were 7 cases (9.3%) of maternal mortality. In 35 cases (46.6%) there was perinatal mortality with mother in the state of good health. In 6 case (8%) there was both perinatal and maternal mortality (Table 5)

Table 5: Distribution of cases according to maternal and perinatal outcome

Outcome	Number	Percentage
Mother & baby well	27	36%
Maternal mortality	07	9.3%
Neonatal mortality	35	46.6%
Both maternal and neonatal mortality	06	06%

## DISCUSSION

In present study, we found that atonic PPH , placental factors and rupture uterus are the common causes of emergency peripartum exploratory laparotomy. Emergency peripartum hysterectomy (EPH) is a major surgical procedure invariably performed in the setting of life threatening hemorrhage during or immediately after abdominal and vaginal deliveries.(3,4,7-9) In our study we found that burst abdomen is also an important cause of post caeserean exploratory laparotomy. According to the Royal College of Obstetricians and Gynecologists (RCOG), caesarean sections carry a risk of bladder injury 1 in 1000 cases. 11 For post cesarean pregnancy - chance of injuries increases 3-fold. (0.6% vs 0.19%; repeat caesereanvs primary cesarean).(12)Exploratory laparotomy and drainage of pus is required in purperial sepsis.. Injectable antibiotics are given to control infection. In our study, there was a case of puerperal sepsis with peritonitis with uterine incisional necrosis. (15)In one of our case there was a rectus muscle haematoma that required exploratory laparotomy and drainage. Rectus sheath hematoma is an uncommon complication following caesarean section and often clinically misdiagnosed cause of abdominal pains.16,17 Conservative treatment is appropriate for patients who are hemodynamically stable and have small non-expanding hematoma in which symptoms are mild and the diagnosis is certain and it includes rest, analgesics, hematoma compression, ice packs, treatment of predisposing conditions and blood transfusion if necessary.(17,18) Surgical intervention is needed for those with hemodynamic instability, expanding hematomas or symptomatic anaemia and it includes evacuation of the hematoma, ligation of bleeding vessels, repair of rectus sheath, drainage if indicated.

### CONCLUSION

The main objective of antenatal care is having healthy mother and healthy baby at the end of pregnancy. Peripartum exploratory laparotomy is a emergency procedure done to reduce maternal mortality and morbidity. . In present study, we found that postpartum haemorrhage, rupture uterus and placental factors are common causes for exploratory laparotomy. In order to control life threatening haemorrhage and to save the life of patient exploratory laparotomy followed by repair of rupture or even obstetric hysterectomy is done. Burst abdomen is also among the most important causes for exploratory laparotomy. Grade 4 puerperialsepsis with peritonitis and uterine incisional necrosis required emergency exploratory laparotomy for pus drainage with higher antibiotic cover to treat the condition.Majority of patients suffered morbidity in the form of prolonged hospital stay or transfusion of blood and blood products, need of ventilatory support or ICU care. Though the patients suffered morbidity, mortality could be prevented by prompt surgical intervention i.e exploratory laparotomy in majority of the patients.

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