

## Original Article

# Early re-operations after gynecological and obstetrical surgery -a five years

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### Abstract

**Objective(s):** To study the incidence, indications and outcome of reoperations done within 7 days of primary gynecological and obstetrical surgery in a teaching institution in last five years. **Method(s):** A retrospective analysis of early reoperations after primary gynecological and obstetrical surgery in last five years was done. **Result(s):** Total incidence of reoperations was 0.603%. Most common complications requiring reoperation were intraperitoneal hemorrhage(48.93%) followed by rectus sheath hematoma(21.28%), sepsis(12.76%), intestinal complications(6.39%), burst abdomen(6.39%) and post partum hemorrhage(4.25%). Women who underwent primary surgeries for gynecological and obstetrical conditions required reoperations in 0.77% & 0.45% cases respectively and mortality was in 10.71% & 15.78% cases respectively. **Conclusion(s):** Early reoperations were required in six cases per 1000 primary surgeries. Though more women required reoperations after gynecological surgeries, mortality was more in reoperations done after primary obstetrical surgeries. Pregnancy associated or related complications, adequate attention during primary surgery and multidisciplinary approach are the important factors which may influence the outcome of primary surgeries.

**Key words:** reoperations, surgical complications, intraperitoneal hemorrhage, hematoma, burst abdomen

### Introduction

Success for most surgical procedures depends, in large part, upon lack of a need to repeat the surgery. A reoperation rate between 0.6- 4.7% has been reported in various studies<sup>1,2</sup>. Common indication for reoperations were intra abdominal hemorrhage, postpartum hemor-

rhage, rectus sheath hematoma, sepsis and small bowel obstruction<sup>3-5</sup>. Factors modifying the cause of relaparotomy include the type of primary operation, whether emergency or elective and preoperative women and general conditions. Mortality following reoperations was high and it varied from nil to 61.5 % in different studies<sup>5,6</sup>. This study was undertaken to know the incidence of early reoperations, its indications and mortality rates in a tertiary teaching institution.

### Methods

It was a retrospective analysis of early reoperations done within 7 days of primary surgery from 1st January 2003 to 31st December 2007 at a tertiary teaching institution. The study subjects (women) were taken from

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**Table 1.**

<b>Incidence of early reoperation</b>		
Number of primary operation	Number of reoperation	Percent age(%)
7796	47	0.603

both gynecology and obstetric ward, who underwent primary surgery in this institution. Total number of operations were 7796 and among them re-operation were required in 47 cases. The incidence, indications and mortality of those women were analyzed.

**Results**

Total number of operations performed were 7796 and among them reoperations were required in 47 women giving an incidence of 0.603% (Table 1). Most common complication requiring reoperation was intraperitoneal hemorrhage(48.93%) followed by rectus sheath hematoma(21.28%), sepsis(12.76%), intestinal complications (6.39%), burst abdomen (6.39%) and post partum hemorrhage(4.25%) (Table 2). Out of the 7796 primary operations 3599 were done for gynecological conditions of which 28 women required reoperations (0.77%) and among them three women died (10.71%). For obstetric conditions 4197 operations were performed of which 19 women required reoperation

**Table 2.**

<b>Indications of reoperations (n=47)</b>		
<b>Indication</b>	<b>Number</b>	<b>Percentage(%)</b>
1. Intraperitoneal hemorrhage	23	48.93
2. Rectus sheath hematoma	10	21.28
3. Sepsis	6	12.76
4. Intestinal complications	3	6.39
5. Burst abdomen	3	6.39
6. Post partum hemorrhage	2	4.25

**Table 3.**

<b>Outcome of reoperations</b>			
<b>Primary surgery (n=7796)</b>	<b>Reoperations (n=47)</b>	<b>Death (n=6)</b>	<b>Percentage(%)</b>
1. Gynecological (n=3599)	28(0.77%)	3	10.71
2. Obstetric (n=4197)	19(0.45%)	3	15.78

(0.45%) and among them three women died (15.78%) (Table 3). Mortality was 12.76% (6/47) among the cases of reoperation.

## Discussion

Reoperation is beneficial in intraperitoneal hemorrhage, rectus sheath hematoma and intestinal complications. Factors modifying the outcome of reoperations are concurrent diseases and type of primary operations, preoperative conditions, associated medical disorders, age of the patients, time interval between primary surgery and reoperation, a high index of suspicion for early postoperative complications, assistance of an experienced colleague, clinical assessment of an intensivist, ICU, blood bank facility and prevention of sepsis.

In the current study 0.603% cases required early reoperations. The incidence of reoperation after gynecological surgery was 0.77% and after obstetric surgery was 0.45%. The high incidence of reoperation after gynecological surgery may be due to the old age of the women with associated complications like malignancy and severe degree of endometriosis. The incidence of relaparotomy after cesarean delivery was 0.33% and 1.56% after gynecologic surgeries as reported by different authors<sup>3,7</sup>.

Intraperitoneal hemorrhage was found in 48.93% cases of reoperations in the current study. In 34.04% (16/47) cases major operative interference in the form of bilateral internal iliac ligation was needed. Abdominal hysterectomy was required in 4.25% of the cases. Other reoperative surgeries included gut repair, rectus sheath hematoma drainage and hemostasis, abscess drainage, haemostatic sutures & burst abdomen repair.

Hemorrhage was frequent and a leading cause where early reoperations were required as reported by different studies<sup>1,3,8</sup>. Safe method of suturing the lower uterine segment incision at caesarean section, and the lateral angles of the vaginal vault after abdominal hysterectomy, care during transverse cutting and suturing of lateral extension of rectus sheath are described as procedures to reduce postoperative complications.

Mortality among the reoperations was 12.76% (6/47) in the current study. Mortality in obstetric reoperations was 15.78% (3/19), whereas in gynecological reoperations it was 10.71% (3/28) in the current study. This high mortality in obstetrical reoperations may be due to

pregnancy associated changes, preoperative hemodynamic conditions and more operations done on an emergency basis. Mortality may be reduced by meticulous primary surgery, early reoperation and proper ICCU facility. Number of maternal deaths was eight out of 66 cases (12.12%) of relaparotomy as reported by Seal et al<sup>3</sup>. In the current study there were three maternal deaths in 19 obstetrical reoperations (15.78%).

Two reports of studies from the general surgery literature have noted that mortality after early reoperations was 42.5 & 43%<sup>1,8</sup>. Sepsis increases the mortality rate. Causes of maternal death in the current study were:

1. Renal failure in a case of preeclampsia with intraperitoneal hemorrhage.
2. Hemorrhagic shock in a case of ectopic pregnancy and rectus sheath hematoma.
3. Postpartum hemorrhage in a case of septicemia leading to multiorgan failure.

In gynecological reoperations death occurred in three women and causes were:

1. Myocardial Infarction in a case of ovarian malignancy.
2. Hemorrhagic shock in a case of vaginal hysterectomy followed by intraperitoneal hemorrhage.
3. Intestinal injury, sepsis in a case of ovarian malignancy leading to multiorgan failure.

## Conclusion

Early reoperations required in six cases per 1000 of primary surgeries. Decision to proceed for early reoperation, counseling and taking the confidence of the accompanying person regarding the outcome of the repeat surgeries to such patients, who are the potential candidates for maternal death, even after intensive resuscitative measures is a real challenge. Indications of primary surgery, whether gynecological or obstetrical, patient's preoperative condition, surgeon's experience and care by the intensivist may influence the outcome of reoperations.

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