# **Research Article**

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# Incidence and causes of relaparotomy after an obstetric and gynaecological operation

M. Sridhar<sup>1</sup>\*, Chillamherla Susmitha<sup>2</sup>

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# \*Correspondence: Dr. M. Sridhar,

E-mail: murikisridhar.dr@gmail.com

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#### **ABSTRACT**

**Background:** The causes for a reoperation include abdominal haemorrhage, internal bleeding, postpartum haemorrhage, rectus sheath hematoma, sepsis etc. This study was conducted to identify the cause for reoperations in our area.

**Methods:** This retrospective study was undertaken over a Two Years period in our hospital on 1982 patients underwent primary obstetric and gynecological surgeries out of which 15 required a resurgery. 21 cases were referred to our hospital from outside. Detailed history of the women, parity, age, clinical history, procedure of the previous surgery, hospital stay, details of any complications and discharge summary were considered. Indications of relaparotomy were also analyzed.

**Results:** The incidence of a relaparotomy of the surgeries performed at our hospital was 0.76%. The most common age group was 20-35 years. The most common indication for resurgery was intra peritoneal hemorrhage which accounted for 20 (55.6%) of the cases followed by rectus sheath hematoma in 9 (25%) and sepsis (11.1%). Drainage and suturing was the most common procedure performed during the relaparotomy. 5 cases underwent complete hysterectomy.

**Conclusions:** Relaparotomy is a rare condition which is required in 7 out of 1000 primary surgeries. Care, if taken to maintain homeostasis during the primary surgery, may reduce the need for a resurgery.

Keywords: Relaparotomy, Primary obstetric surgery, Primary gynecological surgery

#### INTRODUCTION

The success of any operation depends on the well being of the patient after the surgery. This on a large part depends on the lack to repeat the surgery. An incidence of 0.6-4.7% of resurgery rates have been reported around the world in various studies. 1.2

Resurgery or relaparotomy has been defined as the need to perform a surgery for the original disease within 60 days of the first surgery.<sup>3</sup> The causes for a reoperation

can be varied, including abdominal hemorrhage, internal bleeding, postpartum hemorrhage, rectus sheath hematoma, sepsis, to name a few.<sup>4-6</sup> The type of the primary surgery, whether emergency or elective, also makes a difference in the need for a relaparotomy.

Early recognition of these complications is necessary for proper treatment and successful outcome. The purpose of the relaparotomy is to relieve intestinal obstruction, maintain homeostasis, prevent infections and carryout delayed curative surgeries. But the selection of the

<sup>&</sup>lt;sup>1</sup>Department of General Surgery, Shadan Institute of Medical Sciences & Research centre, Telangana, India <sup>2</sup>Department of Obstetrics and Gynaecology, Shadan Institute of Medical Sciences & Research centre, Telangana, India

patients to undergo this resurgery must be properly chosen so that they benefit from the surgery. If not then the situation may be deleterious as there is a high risk of mortality in such cases. The decision to operate and the surgery itself must be performed by senior and experienced surgeons. <sup>3,7</sup> It is estimated that the mortality rate for these type of resurgeries is nil to 61.5%. <sup>8,9</sup>

This study was conducted to identify the causes for reoperations which were undertaken in our area.

#### **METHODS**

This study was performed in the Department of General Surgery and OBGY, Shadan Institute of Medical Sciences & Research centre, during the period of Two years .This retrospective study was conducted to identify the number of relaparotomies that were conducted at our hospital on patients who underwent various gynaecological and obstetric primary surgeries. These primary surgeries could have been performed at our hospital or outside.

The case sheets were analyzed. Detailed history of the women, parity, age, clinical history was noted. The complete blood picture and any other abnormal blood results were taken into account. The clinical history, procedure of the previous surgery, hospital stay, details of any complications and discharge summary were also considered. Indications of relaparotomy were also analyzed.

Only surgeries performed I the obstetrics and gynecology department were considered. All other laparotomy surgeries were excluded from the study. Deliveries in the Caesarian section were included into the study, while normal vaginal deliveries and episiotomies were excluded.

# **RESULTS**

The total number of surgeries which took place during the study period was 1982. Relaparotomy was performed on 36 patients out of which 15 had their primary surgery performed at out hospital and the rest were referred to our hospital from outside (Table 1). Therefore the exact prevalence could not be ascertained.

Table 1: Number of relaparotomies performed.

| Primary surgeries    | Number of relaparotomies | Percentage (%) |
|----------------------|--------------------------|----------------|
| 1982                 | 15                       | 0.76%          |
| Referred resurgeries | 21                       | -              |
| Total                | 36                       |                |

The most common age group of the women undergoing 20-35 years (Figure 1).

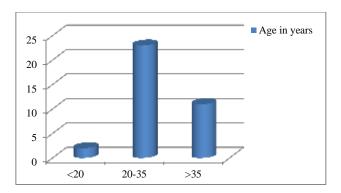


Figure 1: Age wise distribution of patients.

The most common indication for resurgery was intra peritoneal hemorrhage which accounted for 20 (55.6%) of the cases. This was followed by rectus sheath hematoma in 9 (25%) followed by sepsis. The other indicators included Post partum hemorrhage, Intestinal complications burst abdomen (Table 2).

Table 2: Indicators for resurgery.

| Indicators                  | Number | Percentage (%) |
|-----------------------------|--------|----------------|
| Intraperitoneal haemorrhage | 14     | 38.9%          |
| Rectus sheath hematoma      | 9      | 25%            |
| Sepsis                      | 4      | 11.1%          |
| Burst abdomen               | 2      | 5.6%           |
| Foreign body                | 1      | 2.8%           |
| Bladder injury              | 1      | 2.8%           |
| Intestinal complications    | 3      | 8.3%           |
| Postpartum hemorrhage       | 1      | 2.8%           |
| Postpartum atonia           | 1      | 2.8%           |

The procedures that were performed on these patients were drainage and resuturing of hematomas and hemorrhages, hysterectomy, drainage of abscesses (Table 3).

Table 3: Procedures performed.

| Procedures              | Number |
|-------------------------|--------|
| Drainage and resutures  | 24     |
| Drainage of abscess     | 4      |
| Hysterectomy            | 5      |
| Salpingo-oophorectomy   | 2      |
| Removal of foreign body | 1      |

The mortality rate among these surgeries was 2 (5.6%).

## DISCUSSION

After any surgery, many times, there may be a few complications which may lead inevitably to a repeat surgery. This may depend on the type of operation, type

of disease of the primary operation, the cause for the repeat operation etc.

This study was taken to analyze the resurgeries done not only after caesarian sections but also after other obstetrics and gynecological surgeries. An early identification of the complication of the previous surgery can lead to an early diagnosis and treatment so that the morbidity and mortality is reduced.<sup>3,7</sup>

The incidence of relaparotomy from the cases in our hospital was 0.76% (15/1982). This rate was very similar to that of other studies. Erdal et al reported an incidence of  $0.80\%^{10}$ , while in another study in Ghana the incidence was  $0.7\%^{11}$ , and 0.33% and 1.56% in studies from India.<sup>4,13</sup>

Intraperitoneal bleeding and was the most common cause (38.9%) of a reoperation which normally originated form uterine, epigastric or hypogastric arteries, followed by rectus sheath hematoma (25%) and sepsis (11.1%). Hemorrhage was the major cause of relaparotomies in various other studies. <sup>1,4,12,13</sup> In some studies, the incidence was similar to ours with 39.8% caused while in other studies it was as high as 70.8% of the cases. <sup>10</sup>

Although there was no indication in literature of the right time for the resurgery, it is common consensus that the earlier it is diagnosed, the better.<sup>11</sup>

Relaparotomy due to rectus sheath hematoma was performed in 25% of the cases which is higher than reported by a study done in Sudan of  $5.9\%^{14}$  but similar to a study in India which reported 21.28%.

Sepsis was seen in 11.1% of the cases in our study, and it was the main cause of mortality with both the patients who died succumbed to infections. Similar case was seen in a study by Erdal et al where 4 patients died due to infections. It has been observed that though infections after the primary surgery are localized to abscesses and perforation of the colon, systemic diseases such as pneumonia should not be ignored and treated effectively, so as to avoid systemic sepsis, and inflammatory responses and multiple organ failures. <sup>10</sup>

Burst abdomen was seen only in 2 cases in our study accounting for 5.6%, while in a study by Fazari et al. it was 8.8% <sup>14</sup> and another study in Ghana reported 4.17%. <sup>16</sup>

Majority of the repair carried out in the surgeries was drainage and suturing of the hemorrhages including intestinal, postpartum and rectus sheath hematoma (66.7%) and 5 women underwent total hysterectomy (13.9%). Hysterectomy was required only in 4% of the cases in a study by Dasgupta et al.<sup>15</sup>

During the caesarian section, safe method of suturing the lower uterine segment incision and the lateral angles of the vaginal vault after the abdominal hysterectomy, care during transverse cutting and suturing of lateral extension of rectus sheath are described as procedures to reduce postoperative complications.<sup>15</sup>

## **CONCLUSION**

Relaparotomy is a comparatively rare condition which is required in 7 out of 1000 primary surgeries. Care, if taken to maintain homeostasis during the primary surgery, may reduce the need for a resurgery. Patients who had placental abruption and those with previous CS, are more likely to be at risk of relaparotomy. If diagnosed at the earliest, the morbidity and mortality can be reduced.

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