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Original Article

Relaparotomy in Obstetrics and Gynaecology Department of Faridpur Medical College Hospital - Experience in One Year.

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Abstract :

After abdominal surgery some patient's needs relaparotomy for complications developed postoperatively. Aim of this study was to determine the risk factors causing re-laparotomy, the indications, management and outcomes of re-laparotomy admitting in Obstetrics and Gynaecology department in Faridpur Medical College Hospital, a tertiary referral hospital where all complicated patients are referred for management from surrounding districts hospital. It was a cross sectional study done during the period of January 2011 to December 2011, All the cases among which relaparotomy were done after primary surgery were recorded using a protocol prepared for the study. Data was analyzed. Total 6304 patients were admitted in emergency way in Obstetrics and Gynaecology department of Faridpur Medical College Hospital. Among them 1864 patients undergone emergency operations, here 15 patients needed re-laparotomy. The incidence of re-laparotomy was 0.80%. Indications of relaparotomy included internal hemorrhage, postpartum hemorrhage (PPH), retained foreign body, incorrect diagnosis at first laparotomy, intra-abdominal collection of pus and urine, Rectus sheath haematoma and burst abdomen. Often more than one procedure was needed to manage the cases. Re-laparotomy causes much morbidity & mortality with increase in hospital stay and cost. Careful selection of cases for primary operation, expertise of the surgeon, good surgical technique and careful postoperative follow-up can reduce the need for re-laparotomy.

Key words : relaparotomy, abdominal surgery, obstetrics, gynaecology.

Introduction :

The term 're-laparotomy' (RL) refers to laparotomy performed for the original disease within 60 days of the first operation[1]. Emergency operations are a common occurrence in Obstetric department. Major emergency operations are often associated with certain risk and complications. In some cases complications fails conservative measures and needs the patient to return to the operating theater for reopening the abdomen[2]. The purpose of relaparotomy is to manage complications of the previous surgery, maintain homeostasis, prevent intra-abdominal infection or sepsis and carry out delayed curative surgery[3]. Now a day's with the rising trend of caesarian section in peripheral hospitals in our country the postoperative complications are also gradually increasing. Most of the time, relaparotomy is performed when the patient is in shock and unable to withstand the risk of anesthesia and repeat surgery. Often it is a very difficult decision and requires good clinical judgment[4,5]. Relaparotomy is a challenging decision and this type of surgery should be undertaken by experienced surgical team[1,6]. Faridpur Medical College Hospital is a tertiary referral and teaching government hospital of Bangladesh dealing with all types of obstetric emergencies and complications. Patients are referred here from urban, peri-urban and rural hospitals and clinics. The aim of this study is to identify the risk situations where relaparotomy may need, the operative findings, the measures taken to save patient's life and the precautions that may be taken to prevent these emergency situation and subsequent maternal deaths.

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Materials and Methods :

This was a cross sectional observational study done in the Obstetric and Gynaecology department of Faridpur Medical College Hospital (FMCH) of Bangladesh over a period of one year from 1st of January to 31st December 2011. During this period 1864 emergency

operations were performed in this hospital out of total of 6304 emergency admission. All cases needed relaparotomy during this period was included in the study. Relaparotomy was done in 15 patients and the rate was 0.80% of the operations. Of these 15 cases, in 2 cases primary operations were done in this institute while 13 had primary operation at other hospitals and clinics of Faridpur, Magura, Jhinaidah, Kustia and nearby area Cases where relaparotomy needed were done by senior doctors. Some cases where surgical problem found, help of general surgeons were taken. All cases requiring repeat laparotomy were analyzed. The data of the patients were obtained from patients and attendants history, operation theater records, and discharge and referral notes of the primary operation. The following data were collected-age, parity, indications of primary operation, indications of relaparotomy, time interval from primary operations to reopening, procedure under taken on repeat operation and the outcome following relaparotomy. Data was recorded with a preformed protocol for the purpose of the study and analyzed.

Figure 1: Huge pus in a case of relaparotomy

Figure 2: Clear urine like fluid in a relaparotomy case

Figure 3: Ruptured uterus in a relaparotomy case

Results :

There were a total 1864 emergency laparotomy including caesarian section done out of total of 6304 emergency admission. Fifteen patients (0.80%) required relaparotomy. As all the cases of relaparotomy of primary surgery were not done in this hospital, so this prevalence is actually not the exact prevalence. The ages of the patients ranged from 15 to 35 with a mean of 27 years. The parity ranged from 1 to 5 with a median of 2. All the patients were house wife and none of them were working lady. All patients were very poor and came from low socio-economic condition. Most complications requiring relaparotomy were internal hemorrhage, and in four patients technical error in primary operation was found.

Table 1: Indications of relaparotomy

Indications	Number of cases (n=15)	Percentage
Internal haemorrhage	4	2.66%
Foreign body	2	13.3%
Incorrect diagnosis during 1st time laparotomy	2	13.3%
Intraabdominal collection of pus and urine	3	20%
Rectus sheath haematoma	2	13.3%
PPH	1	6.6%
Burst abdomen	1	6.6%

Table I shows the indications of repeat surgery was internal haemorrhage 4 cases (26.3%), PPH 1 case (6.6%), foreign body 2 cases (13.3%), incorrect diagnosis during 1st time laparotomy 2 cases (13.3%). Among incorrect diagnosis; in one case, primary laparotomy was done for appendecectomy but after opening abdomen diagnosed as a case of ectopic pregnancy and referred it after closing the abdomen. Other opened for caesarian section but after opening abdomen the diagnosis was ruptured uterus and referred. Intra-abdominal collection of pus and urine was found in 3 cases (20%), rectus sheath hematoma in 2 cases (13.3%).

Table II: Procedure undertaken during of repeat surgery.

Procedure performed	Number of cases (n=15)	Percentage
Subtotal hysterectomy	4	26.6%
Bilateral uterine artery ligation	2	13.3%
Drainage of blood clot from undersurface of rectus sheath	2	13.3%
Resuturing of uterine incision	2	13.3%
Removal of foreign body.	2	13.3%
Salpingectomy	1	6.6%
Tension suture	1	6.6%

Table II shows the procedure undertaken during of repeat surgery were subtotal hysterectomy 4 cases (26.3%), bilateral uterine artery ligation 2 cases (13.3%), resuturing of uterine incision 2 cases (13.3%), drainage of blood clot from undersurface of rectus sheath and peritoneal cavity 2 cases, more than one procedure were done in some cases.

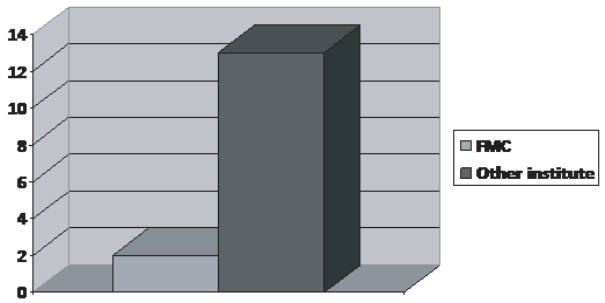

Figure IV: The institutions where 1st time operation was carried out.

Figure IV shows the institution where 1st time operation carried out. Out of 15 relaparotomy only 2 primary operations were done in this institute itself and 13 primary operations were done outside of FMCH.

Table III: Outcome of patients after relaparotomy.

Patients outcome	No.of cases	Indication of relaparotomy	Time interval between 1st and relaparotomy
Improved	10	PPH, Foreign body, Internal haemorrhage etc.	6 hrs-27 days
Referred	2	Internal haemorrhage	24 hrs
Required 3rd relaparotomy	2	Internal haemorrhage, intestinal obstruction	28 days
Expired	1	Internal haemorrhage	48 hrs

Table III shows that out of 15 patients 10 patients were improved and discharged from hospital in good condition, 2 patients needed referral for intensive care unit support, 2 patients needed 3rd time relaparotomy for internal hemorrhage and intestinal obstruction. One patient expired due to failure of adequate replacement therapy after internal haemorrhage, this patient was not reversed from anesthesia.

Discussion :

In this study the incidence, indications, risk factors and outcome of cases requiring relaparotomy in Faridpur Medical College Hospital were analyzed. In this study we critically assessed the cases of relaparotomy after not only caesarian section but other surgical procedures in our Obstetric and Gynaecological practice. The incidence of relaparotomy in this study was 0.80% which was similar to study of Sak Muhammet et al[3] which was 0.72%. One study from a teaching hospital in Ghana with a Caesarian section rate of 17% showed a relaparotomy rate of 0.7%[7], another study from India showed a relaparotomy rate of 0.33%[8]. The incidence of relaparotomy after cesarean delivery was 0.33% and 1.56% after gynecologic surgeries as reported by different authors[8].

Most common indication of relaparotomy in our study was hemorrhagic causes 39.8%, of which internal hemorrhage was 26.6%, uncontrolled PPH 6.6% and rectus sheath haematoma 6.6%. The result is near to that of Akhter et al[9] who found it 48.99%. Subtotal hysterectomies were done in secondary hemorrhage 26.6%, (4 cases) in our study. Abdominal hysterectomy was required in 4.25% of the cases in a study by Dasgupta et al[10]. Bleeding can originate from hypogastric, epigastric or uterine arteries etc. In another study increase bleeding and haematoma was the cause of relaparotomy in 70.8% cases[3]. Presence of foreign body in the abdomen and incorrect diagnosis constitute 26.6%. Sepsis was the cause in 20% and burst abdomen constitute 6.6% which was higher than the study of

Rouf S et al[3] where it was 4.17% in each case respectively. Rectus sheath haematoma was found in 13.3% cases in our study as an indication of relaparotomy that is similar to study of Rouf S et al[3] (10.52%). It was found to be associated with DIC following eclampsia, sepsis, injury to the vessels of rectus sheath. Proper haemostasis before suturing the rectus sheath can minimize the condition.

Relaparotomy for haemorrhage and wound dehiscence bring about a lower rate of mortality compared to septic patients[3]. With the rising trend of caesarian section and disseminations of its practice everywhere the complications also increasing. There is deficiency of skilled obstetrician, operation theatre facilities, asepsis and lack of haemostasis.

In our study 2 patients needed relaparotomy for primary operation in this institute but 13 patients were referred from peripheral hospitals and clinics.

Before laparotomy the surgeon should asses the patient critically and justifies the indication of repeat operation, inform the patient about its complications, morbidity and mortality.

In our hospital settings, relaparotomy were done by senior obstetricians, 4 patients (26.6%) needed subtotal hysterectomy, 2 patients (13.3%) needed bilateral uterine artery ligation, 2 patients needed (13.3%) drainage of rectus sheath hematoma, 2 patients (13.3%) needed resuturing of uterus due to uncontrolled bleeding. One patient needed tension suture for burst abdomen, one patient needed drainage of pus from wide spread intra abdominal sepsis, 2 patients needed removal of foreign bodies (surgical mop). One needed salpingectomy for ruptured ectopic pregnancy and other had ruptured uterus which was not diagnosed before 1st time laparotomy, these two cases were misdiagnosed and overlooked during primary operations.

Maternal mortality and morbidity was quite high in patients who required relaparotomy following caesarian operation[1]. Maternal mortality in this study was in one case (6.6%) which was 12.1% in an Indian study[7]. Mortality among the reoperations was 12.76%[10]. Two patients were referred for ICU support as the condition deteriorates. Two needed laparotomy 3rd time due to intestinal obstruction, internal haemorrhage, and 12 patients improved.

In this study it is revealed that most of the patients of relaparotomy had due complications following operations in peripheral hospitals and private clinics. These calls for attention to the improvement of the peripheral settings and private organizations where this type of operation should be done by trained obstetricians. Proper assessment and diagnosis, careful surgery, aseptic settings, meticulous haemostasis, facility for blood transfusion and safe anesthesia will reduce the incidence of these dreadful situations.

Conclusion :

Emergency relaparotomy is a life saving procedure. The interval between initial operation and relaparotomy is one of the most significant factors influencing outcome. Every obstetrician should be expert enough not to perform to do simple caesarian section but should be able to tackle effectively the different complication during and related to the operation. Complicated CS and emergency gynecological conditions where diagnosis is in controversy should be referred to higher centers. The risk of re-laparotomy can be minimized by proper diagnosis, recognizing high-risk patients, utilizing meticulous surgical technique and referral when needed for primary situation.

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