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Original Article

Outcome of Relaparotomy in Gynae and Obstetrics cases in DMCH

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ABSTRACT

Background: *Relaparotomy is a laparotomy performed within 60 days of the initial surgery. Relaparotomy is a major problem for surgeons and patients as they experience second surgery within a short time period. It challenges the physical and mental endurance of patients.* ***Objectives:*** *The study objective is to find out the indications and risk factors of relaparotomy in gynae and obstetrics cases in DMCH.* ***Methods:*** *A descriptive cross-sectional study was conducted on 30 patients who met the inclusion criteria and were admitted to the Department of Gynecology and Obstetrics, Dhaka Medical College Hospital between July 2017 to December 2017. Purposive sampling technique was used and data were collected through medical records and interviewing the patients. Data were analyzed using SPSS (Statistical Package for Social Science) version 21. Ethical approval was taken by the ethical committee of the DMCH and written consent was taken from the concerned authority and the patients.* ***Results:*** *Incidence of relaparotomy in Dhaka Medical College & Hospital was 0.95%. Most of the (56.67%) patients were in between 20- 30 years, most of the (80%) patients were house wife. Most of the patients were from rural area (50%). Seventeen patients (57.67%) did not require blood transfusions, while 43.33 % required blood products peri-operatively or postoperatively. Deaths occurred at a rate of 6.66%. Hemorrhagic shock (3.33%) and septicemia with hemorrhagic shock (3.33%) were the leading causes of death.* ***Conclusion:*** *Relaparotomy is a life-saving operation after unsuccessful primary laparotomy. However, serious complications might arise from cesarean birth, demanding extra surgery for patients. This includes performing routine caesarean sections as well as dealing with any difficulties that emerge during or after the procedure.*

Keywords: *Outcome, Relaparotomy, Obstetrics*

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INTRODUCTION

Relaparotomy is a type of laparotomy that is performed within 60 days after the initial surgery for the condition. It is performed within 21 days of the primary operation [1]. A planned, repeated and multi-phased laparotomy is not referred to as relaparotomy [2]. Relaparotomy is used to manage postoperative complications to maintain homeostasis, to prevent intra-abdominal infection and to postpone curative surgery. It is typically conducted when a patient is in shock and is incapable of undergoing anesthesia or recurrent surgery [3]. In gynecology and obstetrics, this treatment is used to maintain hemostasis, manage infection, and repair a burst abdomen. This is a life-saving procedure. According to numerous studies, the incidence of relaparotomy ranges between 0.5-15% [4,5]. Repeated CS is connected with relaparotomy. After CS births, most researchers observed a 0.5–0.7% relaparotomy rate [6]. The most common reason for relaparotomy (39.52%) was a ruptured abdomen, followed by leakage from a previously sutured location (24.65%), septic peritonitis (6.85%), postoperative hemorrhage (4.79%), intestinal obstruction (2.74%) [7]. Expertise in primary surgery, surgical technique, intraoperative hemostasis, and postoperative infection control can avoid relaparotomy. The patient's preoperative general condition, surgeon's experience, and intensivist care may all influence the result of relaparotomy. Complications from abdominal surgery necessitate relaparotomy. A retained foreign substance, incorrect diagnosis after first laparotomy, intra-abdominal pus and urine accumulation, rectus sheath hematoma and burst abdomen are all indications for relaparotomy [8]. A study in India shown that, eight patients (28.57%) required hysterectomy, with five presenting with atonic PPH and three presenting with intraperitoneal hemorrhage as intraoperative procedures of relaparotomy [9]. A study by Shah (2019), found it the most relaparotomy were done (47.94%) 5-10 days within the primary surgery [10]. Another study of Kumari shown that the time interval between primary surgery and relaparotomy is the most within >8 hrs.-24 hrs [11]. Shah reported that, 23.29% patients had died due to relaparotomy because of septicemia [12].

OBJECTIVES

GENERAL OBJECTIVE

To find out the occurrence of relaparotomy in gynae and obstetrics cases in DMCH.

SPECIFIC OBJECTIVES

- To assess the outcomes of relaparotomy in gynae and obstetric cases in DMCH.
- To evaluate measures taken to save patients' life in relaparotomy in gynae and obstetric cases in DMCH.

METHODS

A descriptive cross-sectional study was conducted on 30 patients who met the inclusion criteria and were admitted to Department of Gynecology and Obstetrics, Dhaka Medical College Hospital between July and December 2017. The method of purposive sampling was used. Medical records and open-ended questionnaire interviews with patients were used to collect data. Data were collected using a record book, data sheet, laboratory investigations, clinical examinations, and operation notes. The data were examined using SPSS (Statistical Package for the Social Sciences) version 21. The information was processed and provided in tabular form. The ethical committee of DMCH approved the procedure, and the

relevant authority and patients submitted written consent for the study. The study was carried out in conformity with the British Medical Research Council's recommendations. At the end of each interview, a cross check was performed to identify and collect any missing data. The guide checked finished data sheets on a regular basis to ensure that they were appropriately entered into the SPSS software.

INCLUSION CRITERIA

- All the relaparotomy cases of gynae and obstetrics that were done within 60 days of primary surgery.
- Cases from DMCH or referred from other centre for the sake of complications of the primary surgery.
- Patients willing to participate in the study.

EXCLUSION CRITERIA

- Relaparotomies that were done after 60 days of the primary surgery for the completeness and the indication for primary surgery.
- Non obstetric and gynecological cases of primary case.
- Patients who did not give their consent.

RESULT

Table 1: Socio-demographic characteristics of the patients.

Patient characteristic	Frequency (n=30)	Percentage (%)
Age in years		
20-30	17	56.67
31-40	5	16.67
41-50	5	16.67
51-60	2	06.67
61-70	1	03.33
>70	0	
Education		
No Education	15	50.00
Primary	12	40.00
Secondary	2	06.67
Higher Secondary	1	03.33
Occupation of the patient		
Housewife	24	80.00
Service	5	16.67
Day laborer	1	03.33
Others	0	00.00
Monthly income (Taka)		
5000-10000	4	13.33
10001-15000	18	75.00
15001- 20000	3	10.00
>200001	5	16.67
Residence of patients		
Urban	6	23.33
Urban Slum	9	27.67

Rural	15	50.00
Types of primary surgery		
Gynecological	10	36.33
Obstetrical	20	63.67

Table 1 has demonstrated that the majority of patients (seventeen, 56.67%) who had relaparotomy were from the age group twenty-thirty. Five patients (16.67%) belonged to the age group thirty-one to forty and forty-one to fifty. Two patients (6.67%) were between the age fifty-one to sixty and one patient (3.33%) was between the age sixty-one to seventy. The majority of the patients (fifteen, 50%) had no schooling, while twelve (40%) were primary passed. Secondary and higher secondary school were completed by two (6.67%) and one (3.33%) patient, respectively. The majority of the patients (twenty-four, 80%) were housewives, while five were service-holder (16.67%). One patient was a day laborer (3.33%). 75% (eighteen) patients had a monthly income of 10001-15000 BDT, while 16.67%(five) had a monthly income of more than 20000 BDT. Four patients had a monthly income of BDT. 5000-10000 and three patients had a monthly income of BDT. 15001-20000. 50 % (fifteen) of patients resided in rural areas, while 27.67% (nine) lived in urban slums and 23.33% (six) lived in urban. The majority of the patients (twenty, 63.67%) underwent obstetrical first surgery, whereas ten (36.33%) underwent gynecological primary surgery.

Table 2: Time duration between primary surgery and relaparotomy.

Indication	Frequency (n=30)	Percentage (%)
<12 hrs.	4	13.33
12-24 hrs.	4	13.33
1-7 days	9	30.00
>7-14 days	7	23.33
>14-30 days	4	13.33
>30days up to 6 weeks	2	06.66

Table-2 has indicated that, majority of patients (nine, 30%) had relaparotomy between one-seven days after the primary surgery and seven patients (23.33%) had it seven-fourteen days after the laparotomy. Four patients had relaparotomy (13.33%) after less than 12 hours, between twelve to twenty-four hours and between less than fourteen to thirty days respectively after the primary surgery. Two patients had (6.66%) relaparotomy between thirty days up to six weeks.

Table 3: Procedures undertaken during relaparotomy.

Indication	Frequency (n=30)	Percentage (%)
Rectus sheath hematoma evacuation	1	03.33
Evacuation of hemoperitoneum	2	06.67
Subtotal hysterectomy	9	30.00
Bilateral uterine artery ligation	2	06.67
Resuturing of uterine incision	3	10.00
Removal of foreign body	1	03.33
Salpingectomy	2	06.67
Tension suture	2	06.67
Repair of burst abdomen	1	03.33
Repair of bladder injury	4	13.33
Ovarian cystectomy(post LSCS)	1	03.33

Table-3 had shown the procedures that had taken during relaparotomy where for nine patients (30%) subtotal hysterectomy was worked. Four patients (13.33%) had to repair their bladder injury during relaparotomy where three patients (10%) had resuturing of uterine incision. Two patients (6.67%) respectively had evacuation of hemoperitoneum, bilateral uterine artery ligation, salpingectomy and tension suture. Rectus sheath hematoma evacuation, removal of foreign body, repair burst abdomen and ovarian cystectomy (post LSCS) had taken as procedures during relaparotomy for one patient (3.33%) respectively.

Table 4: Blood transfusion among the patients.

Blood transfusion	Frequency (n=30)	Percentage (%)
Needed	13	43.33
1 bag	5	16.67
2 bags	4	13.33
>3 bag	4	13.33
Not needed	17	57.67

57.67% patients (seventeen) did not need any blood transfusion while 43.33% patients (thirteen) patients needed blood transfusion. Among those thirteen patients five (16.67%) needed one bag of blood, four patients needed (13.33%) two and more than three bags of blood respectively.

Table 5: Outcome of patients after relaparotomy.

Outcome	Frequency (n=30)	Percentage (%)
Improved	28	93.33
Required 3rd relaparotomy	0	0.00
Expired	2	06.66

Table-5 has shown that, among thirty patients 93.33% (twenty-eight) had experienced an improved condition after the relaparotomy, no patients needed third relaparotomy and two patients (6.66%) had been expired during the procedures.

Table 6: Causes of Death and duration of hospital stay.

Causes of death	**Frequency (n=30)**	**Percentage (%)**
Hemorrhagic shock	1	3.33
Septicemia with haemorrhage	1	3.33
Causes of hospital stay	**Frequency (n=30)**	**Percentage (%)**
Hemorrhagic shock	1	3.33
Septicemia with haemorrhage	1	3.33
Duration of hospital stay	**Frequency (n=30)**	**Percentage (%)**
< 10 days	9	30
> 10 days	21	70

Patients who had been expired during the relaparotomy, their cause of death were hemorrhagic shock (one, 3.33%) and septicemia with hemorrhage (one, 3.33%). Due to these same reasons they had to stay at the hospital (one patients for each cause, 3.33%). The duration of their hospital for those reasons were more than ten days for 70% patients (twenty-one) and less than ten days for 30% patients (nine).

DISCUSSION

A "relaparotomy" is a laparotomy that occurs within 60 days of the initial surgery. Relaparotomy is a big challenge for surgeons and patients alike, as it entails performing a second surgery within a short period of time. The purpose of this study was to determine the prevalence, indications, and risk factors associated with relaparotomy cases at Dhaka Medical College Hospital. This study assessed not just caesarean sections, but also other surgical procedures performed in obstetric and gynecological practice.

The present study indicates that the majority of patients (56.67%) were in the age range of 20-30, however a study conducted in India (2019) indicates that the highest incidence of relaparotomy occurred in the age range of 31-40, which is not consistent with the present study [13]. In this situation, 50% of patients lacked any formal education and 60% belong to the income category 10001-15000 BDT. Thombarapu's study found that the majority of patients (77.7%) came from the Rs.20000 economic class, which is relatively similar to this study [14]. Additionally, the survey found that 63.67% of primary surgery was performed for obstetrical reasons and 36.33% for gynecological reasons.

Most of the relaparotomies were done within one to seven days of the first surgery, but Shah (2019) found that the

majority of them were done five to ten days after the first surgery [15]. Kumari did another study, and found that the time between the first surgery and the relaparotomy is more than 8 hours to 24 hours [16].

In the current analysis, 9 cases (30%) of relaparotomy surgeries were subtotal hysterectomy, compared to 26.6% in Alam et al. study [17]. In the current study, bilateral uterine artery ligation was performed in two (6.67%) cases, uterine incision resuturing was performed in three (10%) cases, blood clot drainage from the undersurface of the rectus sheath was performed in one (3.33%) case, and peritoneal cavity drainage was performed in two cases (6.67%). The findings of this investigation are consistent with those of Alam et al. Another study discovered that increased bleeding and hematoma were the cause of 70.8% of relaparotomies [18]. The present study demonstrates that 43.33% patients (thirteen) needed blood transfusion where 57.67% did not need any blood or blood products. Study by Thombarapu shown that, complications arose due to relaparotomy and massive blood transfusion required in 66% of cases [19].

The majority of patients in this study (twenty-eight, 93.33%) improved without the need for a third laparotomy, however two patients died. Maternal mortality was 6.67% in the current study, 6.6% in a study conducted by Alam et al [20]. and 14.18% in another study conducted in Andhra Pradesh, India [21].

3.33% patients had died due to hemorrhagic shock and septicemia with hemorrhage respectively. For the same reasons they had to stay in the hospital (3.33% respectively). The duration of hospital stay were more than ten days for 70% patients and less than ten days for 30% patients. A study in India shown that, the mortality rate of relaparotomy was 23.29% where 65% patients died due to septicemia. The average hospital stay were 22 days after the surgery which is consistent with this study [22].

CONCLUSION

While cesarean delivery can save lives, significant problems might occur that necessitate additional surgery. Maternal death and severe morbidity are prevalent after relaparotomy. Obstetric surgery patients experience near-fatalities and potential mortality. These cases require professional surgical monitoring and judicial decision making to prevent haemorrhage and organ damage. Intensive care units should manage these cases postoperatively. Finally, a reduced CS rate reduces overall complications, including relaparotomy. Every obstetrician should be able to execute a simple caesarean section as well as deal with any complications that arise during or after the procedure. Safe anesthetic and proper judgment can help prevent this tragic circumstance. All obstetricians must be able to execute not just straightforward caesarean sections but also efficiently cope with the surgery' complications.

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