



Original Article

Management and Outcome of Postoperative Complications among the Patients Undergoing Common Obstetric and Gynaecological Surgery outside the RMCH

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Abstract

Objective: To review the management and outcome of postoperative complications after common obstetric and gynecologic surgeries performed in outside nonacademic private hospitals (clinics) and peripheral public hospitals (districts hospitals) and later admitted in Department of Obstetrics and Gynecology of Rajshahi Medical College Hospital (RMCH). RMCH is a tertiary referral hospital where all complicated patients were referred for better management from surrounding hospital.

Methodology: This Quasi-experimental study was carried out in the Department of Obstetrics and Gynecology at Rajshahi Medical College Hospital, Rajshahi, Bangladesh between July 1, 2015 and June 30, 2017. All patients admitted with post operative complications following common obstetric and gynecologic surgeries during this period were included. Patients admitted with post operative complications, where primary surgery was done in this hospital were excluded. The common obstetric and gynaecological surgeries were caesarean sections (LUCS), total abdominal hysterectomy (TAH) and vaginal hysterectomy (VH) performed outside Rajshahi Medical College Hospital.

Result: During this period a total of 39,929 patients were admitted through emergency way in obstetrics and gynecology department of Rajshahi Medical College Hospital. Among them 675 patients were admitted with the complaints of post operative complications following common obstetric and gynecologic surgeries with rate being 1.7%. In 560(83%) cases surgery was done in clinics and 115(17%) cases surgery was done in district hospitals. Among the patients 580(85.9%) cases primary operation was done by non-gynaecologic surgeon and 95(14.1%) cases by gynaecologic surgeon. Caesarean section was the primary obstetric surgery in 405(60%) cases. Gynecologic surgeries included TAH in 185(27.4%) cases and VH in 85(12.6%) cases. We found 25(3.7%) patients died from these complications. Repeat surgery was done in 90(13.33%) cases. Genitourinary fistula repair was done in 41 cases (45.55%). Rests were improved by conservative management.

Conclusion: Any surgical procedure carries risk of complications. Careful selection of patients with suitable indications for operations, expertise of the surgeon, good surgical technique, proper knowledge of pelvic anatomy and careful postoperative follow up can minimize recognized complications.

Key words: *postoperative complications, repeat surgery.*

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Introduction

Like many developing countries Bangladesh emphasized the development of government-

owned healthcare establishments which is largely financed by tax-revenues.¹The health system of Bangladesh is divided into four key factors these

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are government, private sector, nongovernmental organizations (NGOs) and donor agencies.²The country currently had a comprehensive government healthcare service-delivery system comprising peripheral primary healthcare centres and a tiered system of public hospitals that spans throughout the country. But the existing record showed that the use of peripheral government facilities is low³ and this low use of government facilities is attributed mostly to poor quality of services.^{4,5}The rapidly-growing private sector is also contributing to the healthcare-delivery systems.

With the availability of better health care facility and understanding of health issues, both men and women are experiencing longer life expectancy and using increasing services. So obviously there is increase in surgeries. In addition to the generally anticipated risks of any surgery, such as bleeding, infection and anesthetic problems, surgery had the potential for many complications unique to this area of medicine. Post-operative complications were defined as those complications occurring post-operatively. For improve understanding we take complications up to 60 post-operative days. In the article by Sokol and Wilson; the authors attempt to provide a more sophisticated definition of complications. They define a complication as “an undesirable, unintended, and direct result of an operation affecting the patient which would not have occurred had the operation gone as well as could reasonably be hoped.”⁶Dindo and Clavien defined complication as “any deviation from the ideal postoperative course that is not inherent in the procedure and does not comprise a failure to cure.”⁷

In this study we took caesarean section, abdominal hysterectomy and vaginal hysterectomy as common obstetric and gynaecologic operation. Nowadays with the improvement of health sector and rapidly growing private sectors these operations are randomly performed at periphery of Bangladesh by both gynaecological and non gynaecological surgeons.

Due to the close proximity of the female genital organs to the bowel and urinary tract,

gynecological and obstetrical surgery poses a risk for intra-operative injury to the bowel, bladder and ureters as well as the major pelvic blood vessels. Should such an injury be identified during surgery, the necessary steps to repair the injury will prolong the anesthetic time and also the patient's recovery. When such injuries are identified post-operatively, management often involves further surgery to correct the defect.

Materials and Methods

This was a Quasi Experimental study, carried out in our tertiary care institute over a period from July 2015 to June 2017. All the patients admitted in obstetric and gynecologic department of RMCH with the complaint of post operative complications following common gynecological and obstetrical surgeries outside the hospital were included. The common obstetric surgery included was caesarean section while gynecological surgeries included were total abdominal hysterectomy and vaginal hysterectomy done in outside RMCH. The studied population was 675. Data were collected from patients and attendants history, discharge and referral notes of the primary operations. Information extracted include referral hospital, quality of surgeon, primary gynecological or obstetric surgery, type of complication, duration between complication and referral, type of treatment and the result of the treatment.

Post operative complications can be divided into four grades. Grade 1 indicate minor risk events not requiring therapy, Grade 2 potentially life threatening complications with the need of intervention or a hospital stay longer than twice the median hospitalization for the same procedure, Grade 3 complications leading to lasting disability or organ resection, Grade 4 death of a patient due to a complication. In this study for better understanding severity of complications were categorized into two groups-minor complications and major complications.

All patients were evaluated by history, detailed clinical examination, complete blood count, liver function tests, renal function tests, urine routine and microscopy and culture sensitivity, high vaginal swab for culture sensitivity and abdominal

ultrasonography by an expert sonologist. Management of complications either conservatively or by surgical intervention were carried out. Follow up of the patients was done after 2 weeks and 4 weeks of discharge and complications if any were noted. Data was recorded with a preformed protocol for the purpose of the study and analyzed by SPSS.

Results

There were a total of 39,929 patients admitted through emergency way in obstetrics and gynecology department of Rajshahi Medical College Hospital from July 2015 to June 2017. Out of these 675 patients were admitted with post operative complications. Table-I showed that maximum surgery was done in clinics and only one third cases were done in district hospitals. Figure-1 showed almost all cases were done by non-gynecological surgeons and only 95(14.1%) cases by gynecological surgeons. Table-II showed the distribution of patients according to type of surgery. It was showed that three fifth of the complications occurred after caesarean section, one fifth occurred after vaginal hysterectomy and two fifth after total abdominal hysterectomy.

Figure-2 showed the severity of complications. 574 cases (85.03%) the complications were minor type and 101(14.96%) cases complications were major. Table-III and Table-IV showed the minor and major complications. Table-IV showed irrespective of surgery Genitourinary fistula was the predominant major complication found in most of the cases. Table-V showed the procedure performed regarding management of these patients. Maximum patients were conservatively improved by uterotonic drugs, uterine tamponade, blood transfusions and antibiotic according to culture sensitivity. Repeat surgery was done in only 90 cases (13.33%).

Table-VI showed the indications of repeat surgery was internal hemorrhage 12 cases (11.88%), PPH 6 cases (5.94%), and rectus sheath hematoma 10 cases (9.91%). In 7 cases (6.93%) foreign body (mop) were removed by re-laparotomy. Intra-abdominal collection of pus was found in 9(8.91%) cases .Table-VII showed the indication of repeat surgery after gynaecological and

obstetric operation. Table-VIII showed the time interval between primary surgery and our management. Most of the patients admitted with complications (2-3) days after primary operation.

Figure-3 showed among 675 patients 650(96%) patients survived and 25 (4%) patients expired. Table-IX showed maximum 10(40%) patients died due to delayed referral from primary centre 5patients died due to inadequate replacement therapy after haemorrhage and 5(20%) due to septicemia. 3 died due to DIC with acute renal failure and 2 due to pulmonary oedema.

Table I: Distribution of the patients according to the place of operation (n=675)

Place of operation	Number of cases	Percentage (%)
Non-academic private hospital	560	82.96%
Peripheral public hospital	115	17.04%

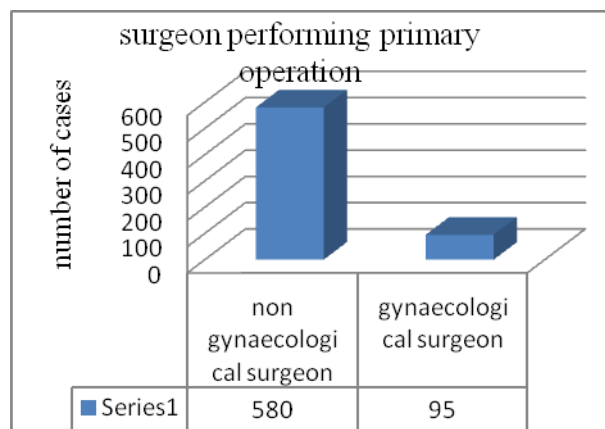
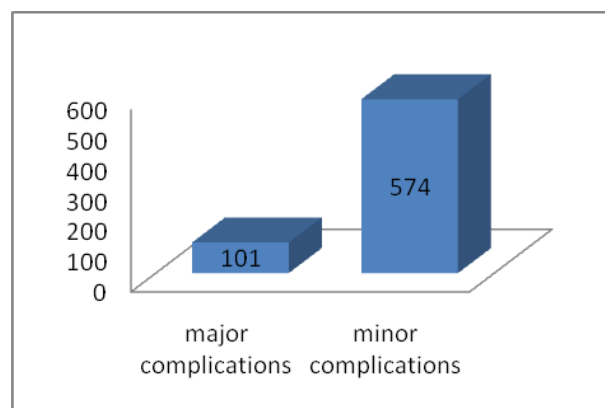


Figure 1: Surgeons performing primary operation (n=675)

Table II: Distribution of patients according to type of surgery (n=675)

Type of surgery	Number of cases	Percentage (%)
Caesarean section	405	60%
Total abdominal hysterectomy	185	27.4%
Vaginal hysterectomy	85	12.6%

**Figure 2:** Severity of complications (n=675)**Table – III:** Distribution of patients according to minor complications

Name of complications	Number of patients	Percentage (%)
Per vaginal bleeding	398	69.34%
Foul smelling vaginal discharge	152	26.48%
Urinary tract infection	14	2.44%
Minor wound infection	10	1.74%
Total	574	100%

Table – IV: Distribution of patients according to major complications

Name of complications	No. of patients	Percentage (%)
Genitourinary fistula	41	40.59%
Internal hemorrhage	14	13.86%
Postpartum hemorrhage	09	8.91%
Rectus sheath hematoma	11	10.89%
Septicemia	06	5.94%
Burst abdomen	04	3.96%
Paralytic ileus	04	3.96%
Foreign body in abdomen	07	6.94%
DIC & renal failure	03	2.97%
Pulmonary edema	02	1.98%
Total	101	100%

Table V: Type of management done in RMCH (n=675)

Procedure performed	Number of cases	Percentage (%)
Conservative treatment	585	86.67%
Repeat surgery	90	13.33%

Table VI: Indications of Repeat surgery (n=90)

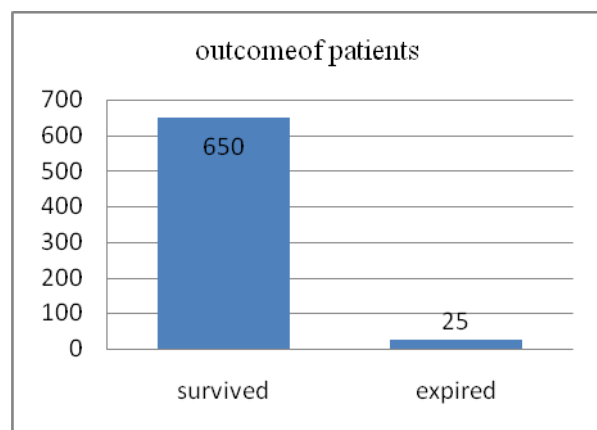
Indications	Number of cases	Percentage (%)
Internal hemorrhage	12	13.33%
Rectus sheath hematoma	10	11.11%
Intra-abdominal collection of pus	9	10%
Post-partum hemorrhage	6	6.67%
Foreign body	7	7.78%
Opening of vault	5	5.56%
Repair of fistula	41	45.55%

Table VII: Indication of repeat surgery after gynecological and obstetrical operation (n=90)

Type of previous surgery	Number of cases	Percentage (%)
After caesarean section	38	42.22
After abdominal hysterectomy	32	35.55
After vaginal hysterectomy	20	22.22

Table VIII: Time interval between primary surgery and our management (n=675)

Time interval	Number of cases	Percentage (%)
First day	90	13.3%
2-3 days	250	37.0%
4-7 days	115	17.0%
8-14 days	95	14.0%
15-28 days	80	11.9%
29-60 days	45	6.7%

**Figure 3:** Outcome of patients (n=675)**Table IX:** Causes of Death (n=25)

Causes of death	Number of patients	Percentage (%)
Inadequate replacement therapy	5	20%
Delayed referral from primary centre	10	40%
Septicemia	5	20%
DIC with acute renal failure	3	12%
Pulmonary oedema	2	8%

Discussion:

The study showed that maximum number of operations was done in clinics where there was poor quality of health facilities and only a small number of operations done in district hospitals. At periphery almost one sixth of the operations were done by the non gynaecological surgeons and one sixth were done by the gynaecological surgeons.

In this study out of 675 patients 574(85.03%) patients' complications were minor. They were improved by blood transfusion, appropriate antibiotics and hip bath and discharged. Major postoperative complications were in 14.96% cases.

This study showed that 85.9% patients were referred from clinics while 14.1% patients were referred from district hospitals, similar to 73.2% and 17.1% respectively reported by Pascalet al.⁸The incidence of re-lapartomy in our study was 3.7% which was more than 0.80% reported by Alam et al.⁹

Indication of repeat surgery in this study was internal hemorrhage 11.88%, uncontrolled PPH 6.67%, rectus sheath hematoma 11.11%. The result is near to that of Akhteret al¹⁰ who found it 48.99%. In another study increase bleeding and hematoma was the causes of re-lapartomy in 70.8% cases.¹¹Proper haemostasis before suturing the rectus sheath can minimize the condition.

However, obstetric complications are usually managed conservatively with surgery required only in one third of patients. But the outcome of

obstetric surgery complications is worse as compared to gynecological surgical outcome, as obstetric surgery complications are associated with 42.22%.

In this hospital setting 574 (85.03%) patients were improved by conservative treatment, 405 (60%) patients required at least one unit of blood transfusion. 41 (45.55%) cases genitourinary fistula were repaired overall success rate was (90.9%). It was similar to a study by Pascal HP et al.¹²

Conclusion:

The post-operative complications can be minimized by proper diagnosis, recognizing high risk patients, utilizing meticulous surgical technique and referral when needed for primary situation. Every obstetrician should be expert enough not to perform to do simple caesarean section but should be able to tackle efficiently the different complications during and related to the operation. However, previous surgery, length of operative time and rural-urban divide are additional factors responsible for complications. Complicated caesarean sections and emergency gynecological conditions where diagnosis is in controversy should be referred to higher centers.

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