



International Journal of Medical Research & Health Sciences

www.ijmrhs.com

Volume 4 Issue 3

Coden: IJMRHS

Copyright ©2015

ISSN: 2319-5886

Received: 11th Apr 2015Revised: 18th May 2015Accepted: 27th Jun 2015

Research article

RETROSPECTIVE STUDY OF RELAPAROTOMY IN DEPARTMENT OF OBSTETRICS, GYNAECOLOGY AND FAMILY PLANNING IN, RURAL TERTIARY CARE HOSPITAL, ANDHRA PRADESH, INDIA

*Uma Thombarapu¹, Prabha Devi Kodey², GangadharaRao Koneru³

¹Assistant Professor, ²Professor & Head of the Department, ³Professor, Department of Obstetrics & Gynaecology, NRI Medical College & General Hospital, Chinakakani, Guntur, Andhra Pradesh, India

*Corresponding author email: umathombarapu@gmail.com

ABSTRACT

Introduction: Relaparotomy is biggest dilemma to the surgeon and critical to the patient to undergo second surgery within short span of time. It is challenging both physically and mentally to the patient. **Aim:** Aim of the study was to determine incidence of relaparotomy and its indication, management and outcome in the department of Obstetrics, Gynaecology and Family Planning (OBGYN & FP) in NRI Medical College & General Hospital at Guntur District. **Materials and Methods:** It is a retrospective observational study for the duration of 3 and ½ years. Total number of surgeries -7, 718. Total number of relaparotomy- 27 which include referral cases. **Results:** Incidence for relaparotomy was 0.34%. Most important cause for relaparotomy was haemorrhagic causes (44.4%), followed by burst abdomen (33.3%). Relaparotomy can increase morbidity, mortality (14.8%) of patients with increased hospital stay on an average of 27 days including Intensive Care Unit, further increasing the financial burden to the patient. **Conclusion:** Emergency relaparotomy is a life saving procedure. Good expertise in selection of primary surgery and right surgical technique, intra operative hemostasis, control of post operative infection can avoid relaparotomy

Keywords: Relaparotomy, Haemorrhage, Burst Abdomen, Hemoperitoneum, Hemostasis.

INTRODUCTION

Relaparotomy is original Greek word with three components re - repeated, Laparostomach and tomie - cut. If laparotomy done within 60 days of primary surgery for the original disease it is called relaparotomy^[1]. Early relaparotomy is one that is done, within 21 days of the primary surgery. If the laparotomy is done which is planable, repeated and multiphasic to complete the primary surgery is not considered as relaparotomy. The main purpose for relaparotomy in OBGYN & FP is to achieve haemostasis, to control sepsis and repair burst abdomen^[2]. The decision to perform and manage relaparotomy should be done by senior consultant, as it is associated with considerable surgical and

anaesthetic complications as patient may be in shock^[3], sepsis and multi organ dysfunction. It is a difficult decision requiring good clinical judgement^[4]. Even some times inappropriate decision may be deleterious to the patient leading to increased morbidity and mortality. Increasing trends in caesarean sections^[5] performing surgeries at the peripheral centers where non availability blood bank facilities, intensive care units still increases the complications leading to relaparotomy. Aim of the study is to identify incidence, risk factors of relaparotomy and analyse all cases for its indications, management and outcome.

MATERIALS AND METHODS

Type of study: A retrospective observational study. The study was done during the time period of 3½ years from January 2011 to June 2014. The study was conducted at NRI Medical College & General Hospital which is a tertiary care centre catering high referral services to surrounding 5 districts mostly rural areas.

Ethical approval: Ethical Clearance was obtained from Institutional Research Committee.

Inclusion criteria: Laparotomies that were done within 60 days of primary surgery whether it is from the institute or referred from other center for the sake of complications of the primary surgery of the primary surgery. The indication for the primary surgery selected was following obstetrics, gynaecology and tubectomy.

Exclusion criteria: Relaparotomies that were done after 60 days of the primary surgery for the completeness and the indication for primary surgery were non obstetric, gynaecological and tubectomy were excluded from the study.

Data was collected from Medical Records. Demographic data like age, socioeconomic status, booking status of the patient were taken. During this period the total number of Obstetric surgeries were 4,540, which include both emergency and elective. Total numbers of gynaecological surgeries were 1,116 (elective - 995; emergency -121). Total number of family planning surgeries -2,062. In this study we included even referral cases where primary surgery was done at other hospitals. Indication for relaparotomy and the procedure done, time interval between primary and secondary surgery noted. Number of blood components transfusion, Intensive Care Unit stay, complications developed and total no of hospital stay were analysed.

Statistical analysis: Data collected was tabulated and analysed using percentages and average.

Table 2: Year wise distribution of cases in Obgyn-Fp

Year	No. of gynaecological surgeries	No of relaparotomy	No of obstetric surgeries	No of relaparotomy	No of family planning surgeries	No. of relaparotomy
2011	313	3	1251	1	755	-
2012	355	3	1420	2	623	-
2013	284	2	1279	1	490	-
2014	164	1	590	1	194	-
total	1116	9	4540	5	2062	-

RESULTS

Total number of relaparotomy - 27 (3½ years)

The Demographic Analysis was done for 27 cases.

Table 1: Age wise distribution

Age (years)	No of Patients n =27
20-30	17
31-40	4
41-50	4
51-60	1
61-70	0
>70	1

Among 27 cases, 21 patients belong to low socio economic status. 10 booked, 13 unbooked and 4 referral cases. Total number of surgeries done during 3½ years - 7,718. Among them 27 relaparotomy, the incidence being 0.34%. The incidence of relaparotomy was 0.18% from our institutional primary surgeries. Out of 7,718 surgeries 4,550 obstetrics cases. Among which 13 relaparotomy, 5 (0.11%) institutional and 8 referral. The incidence for total obstetric relaparotomy was 0.28%. This constitutes 48% of total relaparotomy. Among 13 cases of obstetric relaparotomy, 9 were following emergency and remaining 4 following elective caesarean section. Out of 1,116 gynae surgeries, relaparotomy was done in 12 cases. 9 (0.8%) institutional and 3 referral. The incidence of relaparotomy for total gynec cases was 1.07% constitutes 44.4% relaparotomy. Total number of family planning surgeries was 2,062, from our Institute, none needed relaparotomy. The 2 cases of relaparotomy were referral following tubectomy outside

The most common indication for relaparotomy - hemorrhagic causes in 12 (44.4%) burst abdomen 9 cases accounting for 33% , followed by sepsis 2 (7.4%), bladder injury (1), to remove big ovarian mass (1), recurrent ovarian cyst (1), 3.7% each. Only one patient had hemoperitoneum, sepsis and multi organ dysfunction. Out of 12, Hemorrhagic causes include Hemoperitoneum 8, Rectus sheath hematoma 3, and retroperitoneal bleed after total abdominal hysterectomy for broad ligament fibroid 1.

Among 27 cases, 13 had caesarean section as primary surgery, 4 elective and 9 emergency. 12 out of 27 relaparotomy, 10 elective gynaecological surgeries, 2 emergency and 2 patients following tubectomy.

Table 3: Time interval between primary surgery &relaparotomy

Time interval	No of cases
<12 hrs	3
12-24 hrs	4
1-7 days	9
>7-14 days	7
>14-30 days	3
>30days up to 6 weeks	1

9 (1/3rd) patients required relaparotomy in first week following primary surgery. For all relaparotomy cases high risk consent was taken, required investigations done which include USG abdomen, CT and MRI abdomen and pelvis where ever required, coagulation profile, arranged blood and blood products , called for help from other speciality consultants.

Out of 27 cases 11 were given general anaesthesia and 16 were given spinal anaesthesia. The type of incision was vertical in 16 and transverse in 11 cases.

The most common procedure that was done during relaparotomy was repair of burst abdomen - 9cases (33%) 8-gynec and 1- LSCS. Risk factors for these Diabetes -3, HIV-2 cases, BMI> 25 in 8. 7 with vertical incision, 2 with previous surgical incisions.

One patient needed Colostomy at the time of relaparotomy. Total blood components given 158 units, 52 Whole blood, 34 Packed Red Blood Cells, 35 Fresh Frozen Plasma, 37 Platelets for all relaparotomy patients.

Table 4: Procedures done during relaparotomy

Type of procedure done	No of patients
Repair of burst abdomen	9 (33%)
Rectus sheath hematoma evacuation	3 (11%)
Evacuation of hemoperitoneum	3 (11%)
Subtotal Hysterectomy	2 (7.4%)
Bladder injury	1 (3.71%)
Haemorrhage control + fibroid removal + internal iliac artery ligation (very huge fibroid attempted surgery outside)	1
Ovarian cystectomy(post LSCS)	1
Removal of abdominal pack (kept for control of retroperitoneal haemorrhage following broad ligament fibroid)	1
Mesosalpinx tear suture (tubectomy)	1
Infundibulo pelvic ligament bleed+rectus sheath hematoma evacuation+ pre vesical ooze	1
Evacuation of pus	2
Control of haemorrhage of tubo ovarian ligament tear (following tubectomy)	1
Huge ovarian cyst removal , not able to achieve haemostasis abdominal pack kept insitu then this was proceeded by third laparotomy	1

Out of 27 patients 11 needed ICU care. Complications that developed in these patients: 6 required mechanical ventilation, 10 were treated for hemorrhagic shock and hypotension, 2 patients required dialysis, 1 lung collapse, 1 faecal fistula, 1 tracheostomy, 1 patient developed seizures, 1 MODS, 4 secondary suturing, 4 required repeat relaparotomy (second relaparotomy), 3 patients developed Disseminated Intravascular Coagulopathy.

Out of 27 cases 4 required second relaparotomy (14.8%) within 12 hours. Among them 3 were obstetric cases and 1 was gynec case. All 4 cases were referred from other hospitals.

Out of 27 cases 4 deaths (14.8%), 2 obstetric and 2 gynaeac. Out of these 4 deaths 3 were repeat relaparotomy (second relaparotomy). Average duration of stay in hospital was 27 days.

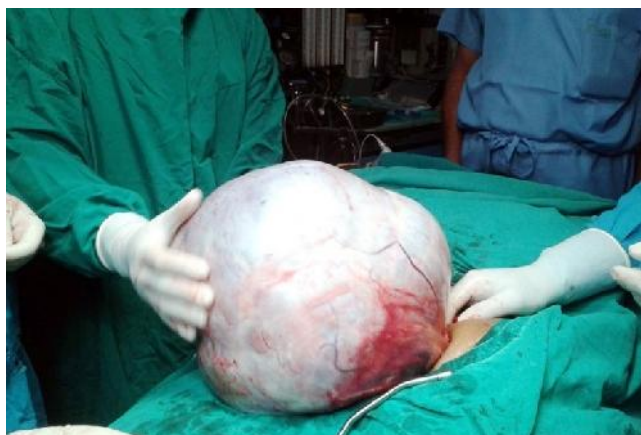


Fig 1: Dysgerminoma in pregnancy undergone relaparotomy on post op days 2 of LSCS



Fig 2: Evacuated clots from hemoperitonem

DISCUSSION

In this descriptive study we collected all the data from the patient records and audit was done. 62.9% of the patients fall into the group of 20 – 30 years of age. 21 (77.7%) patients belong to income group of < Rs.20, 000.

Total number of surgeries done was 7,718 which include both elective and emergency. 27 needed relaparotomy out of 7,718 (0.34%). 14 (0.18%) were institutional and 13(0.16%) were referral cases. Study of Faridpur, Bangladesh of 1 year where 1,864 surgeries were done, 15 cases needed relaparotomy (0.80%)^[6]. Incidence of our study is less than the Faridpur study.

In our study 13 patients needed relaparotomy out of 4,540, elective and emergency cases following caesarean section (0.28%), 5 (0.11%) institutional

and 8(0.17%) referral. In study conducted at teaching hospital at Dhaka out of 3,830 caesarean sections 24 relaparotomy (0.62%) , 4 (0.1%) were institutional and 20 (0.52%) were referral^[3]. A study conducted at teaching hospital at Kolkota for 3 years, the incidence of relaparotomy after caesarean section was 0.5%^[7]. Another study at teaching hospital Ghana incidence of relaparotomy was 0.7%^[8]. Our institutional relaparotomy incidence 0.11% after caesarean section was less than compared to other studies.

The most common indication for relaparotomy in our study was hemorrhagic cause 12 (44.4%) followed by burst abdomen 9(33%), sepsis 7.4 %. In another similar study conducted at Firadpur, Bangladesh most common cause was hemoperitonem (39.8%). The most common procedure done during relaparotomy was repair or Burst abdomen in 9 cases (33%), bladder injury repair in 1, removal of ovarian cyst in post-operative day 2 following LSCS done outside center latter it came as Dysgerminoma(Fig :1). Evacuation of pus in 2. One case was attempted primary surgery outside for huge Ovarian cyst, patient admitted to us within a month with abdominal distension and proceeded for relaparotomy ovarian cystectomy attempted difficult to achieve haemostasis, abdomen packing done with mops, second relaparotomy done for removal of pack 24 hours latter patient developed Disseminated Intra vascular Coagulation and died(Fig :2).

Among hemorrhagic causes, most common procedure rectus sheath hematoma drainage 11%, hemoperitonem drainage in 11%. 2 patients were subjected sub-total hysterectomy (7.4%) and drainage of pus in two cases (7.4%). The most common procedure done was subtotal hysterectomy at Firadpur study 26.4% and Dhaka study 50%.

Decision for relaparotomy taken by senior consultants and attended by team of surgeons from the department and other specialities where ever required. Most of the relaparotomy done between days 1 – 7

On an average each patient required 5.8 units blood and blood products. Out of 27, 11 required ICU care. Out of 27 patients 10 (37%) of patients had hypotension due to shock. 6 patients required mechanical ventilation.

In our study 4 (14.8%) required third laparotomy, among them 3 were obstetric cases and 1 gynec. All

cases that underwent third surgery were referral. In Firadpur study the incidence of third laparotomy was 13.3%, in Kolkota study in 19.6%.

Maternal mortality in our study was 14.8%, 2 obstetric and 2 gynec cases, among them 3 referral. The mortality in Firadpur study 6.6%, Kolkota study 12.1%, 9.09% in Ghana study, 25% in Dhaka study. In another study conducted in India mortality was 12.76%^[9].

Risk and possible complications of Exploratory Relaparotomy depends upon the reason for surgery. The most common indications are bleeding, infection, poor healing, and damage to internal organs. Even though relaparotomy is unavoidable in some cases, several measures such as careful surgical techniques, meticulous haemostasis, aseptic conditions, experienced surgeon even at the time of primary surgery are essential to avoid relaparotomy to maximum extent. Relaparotomy is a challenge for attending surgeon and anaesthesiologist, and it is much more if the surgeon is same for relaparotomy. Timely done relaparotomy is lifesaving. Relaparotomy creates psychological trauma, financial constraint to patients and relatives.

CONCLUSION

Emergency relaparotomy life saving procedure. Interval between primary operation &relaparotomy is one of the most important significant factors for outcome. Every surgeon should be well versed with surgical techniques. To avoid relaparotomy correct documentation, timely required investigations and meticulous surgical techniques during primary surgery are essential. Referral may be needed even for primary surgery, multi-disciplinary approach; decision for relaparotomy should be taken promptly without undue delay may reduce morbidity and mortality.

ACKNOWLEDGEMENT: Nil

Conflict of Interest: Nil

REFERENCES

1. Unalp HR, Kamer E, Kar H. Urgent abdominal re-explorations. *World J Emerg Surg.* 2006; 1: 10.
2. Erdal SM, Abdulkadir T, Siddik EM, Ender SH, Ali O, Sibel S, et al. Relaparotomy after initial surgery in obstetric and gynecologic operations: analysis of 113 cases. *Ginekol Pol.* 2012; 83:429-32
3. Rouf S, Sharmin S, Dewan F, Akhter S. Relaparotomy after Cesarean Section : Experience from a Tertiary Referral and Teaching Hospital of Bangladesh . *Bangladesh J ObstetGynaecol.* 2009; 24(1):3-9.
4. Anita K, Kavita W. Emergency Obstetric Hysterectomy. *J ObstetGynaecol India* 2005; 55(2):132-134.
5. AkhterR,Hossain T, RashidM. Relaparomy after caesarean delivery: Aprospective study. *J Dhaka Med Coll.*2011; 20(1);57-626.
6. IP Allam,Mahabuba,SR Das. Relaparotomy in Obstetrics and Gynaecology Department of FiradpurMedical College Hospital – Experience in One Year.*Firadpur med coll j.*2012; 7(2):75-78.
7. Seal SL, Kami l ya G, Bhat t acharyya SK, Mukherj i J, Bhattacharyya AR. Relaparotomy after Cesarean Delivery: Experience from an Indian Teaching Hospital. *J ObstetGynaecol Res.* 2007; 33(6):804-9.
8. Seffah JD - Re-laparotomy after Cesarean section; *Int J Gynaecol Obstet.* 2005 ; 88(3):253-7.
9. Dasgupta S, Pratim SP, Aradhana K, Partha M, Karti M. Early re-operations after gynecological and obstetrical surgery –a five years. *J ObstetGynecol India* 2010; 60(6):507 – 10.