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RESEARCH ARTICLE

INCISIONAL HERNIA FOLLOWING OBSTETRICS AND GYNAECOLOGICAL SURGERIES: A HOSPITAL BASED PROSPECTIVE OBSERVATIONAL STUDY

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ABSTRACT

Background and Objectives: Incisional hernia is the most common complication following abdominal surgery that requires reoperation. Incisional hernia is more common in females following obstetrics and gynaecological surgeries. Laparoscopic incisional hernia repair has been gaining popularity for small and medium sized ventral hernias.The aim of this study was to analyze the clinical details of incisional hernia following obstetrics and gynaecological surgeries and early outcomes of laparoscopicintraperitonealonlay mesh hernia repair using composite mesh. **Methods**: A prospective hospital based observational study in which 36 females with incisional hernia following obstetrics and gynaecological surgeries were enrolled and clinical details were taken. Laparoscopic intraperitonealonlay mesh hernioplasty using composite mesh with or without primary closure of defect was done. **Results:** Thirty six females with a mean age of 49.2years with incisional hernia through previous midline (63.88%), pfannensteil(36.12%) incisions presented with swelling(80.5%), pain(16.6%) over incision sites. There was previous history of previous hysterectomy(47.2%), caesarean section(38.8%),myomectomy(5.6%),ectopic rupture(5.6%) and ovarian cyst rupture(2.7%) with comorbidities like obesity(19.4%),diabetes(11.1%),COPD(2.7%),smoking(2.7%) and history of postoperative wound infection following previous surgery(5.6%).Patients underwent laparoscopic intraperitonealonlay mesh hernioplasty using composite mesh with introduction of mesh in 4-170 sec, adjusting and fixation of mesh in 30 -60min using tacks and transfascial sutures. Hospital stay was a mean of 2.1days with complications of seroma formation(8.3%) and recurrence(5.6%). **Conclusion:** Incisional hernia following obstetrics and gynaecological procedures is a common problem which can be effectively treated with laparoscopic onlay mesh hernioplasty.

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INTRODUCTION

Incisional hernia is defined as any abdominal wall defect with or without a bulge in the area of postoperative scar perceptible or palpable by clinical examination or imaging (Muysoms, 2009). Incisional hernia, is the result of a failure of fascial tissues to heal and close following laparotomy (Bucknall, 1982). Incisional hernia is a common long-term complication of abdominal surgery and is estimated to occur in 11-20% of laparotomy incisions (Bloemen, 2011; Van'tRiet, 2002). Factors implicated in the development of incisional hernia include obesity, malnutrition, diabetes, jaundice, aneamia, steroid use, type of incision, suture material used, wound closure technique and wound infection (Williams, 2008; Heniford, 2010; van'tRiet, 2002). Such hernias can occur after any type of abdominal wall incision (Bucknall, 1982). Incisions in abdominal gynecologic operations include; the lower midline vertical incision; the suprapubic transverse incisions (Pfannenstiel, Maylard, and Cherney incisions) and the supra and infraumbilical incisions. After midline cesarean sections, incisional hernia occurs in 1.3-5.4% of cases (Oscar Agüero, 2005; Agbakwuru, 2009; Johnson, 1993; Adesunkanmp, 2003) whereas it is only 0-2% following pfannenstiel incision (Luijendijk, 1997; Kisielinski, 1994). Incisional hernia after extended abdominal hysterectomy with bilateral salpingo oophorectomy for oncological surgeries has been reported in 16.9% patients (Franchi, 2001). Laparoscopic ventral hernia repair (LVHR) was first done by Karl LeBlanc in 1993. He performed intraperitonialonlay mesh repair (IPOM) reported short hospital stay, 0-9% recurrence and less complications. The basic technique for repair is access to the abdominal cavity, adhesiolysis and mesh hernioplasty.

AIM OF THE STUDY

- To study the characteristics of incisional hernia following obstetrics and gynecological surgeries

- To observe the feasibility and outcome of laparoscopic intraperitonialonlay mesh repair (IPOM) of incisional hernia in the study group.

MATERIALS AND METHODS

It is hospital based prospective observational study conducted in the Department of General Surgery, Govt. Medical College, Srinagar and department of Obstetrics and gynecology SKIMS Bemina. Female patients with incisional hernia following obstetrics and gynecological surgeries were admitted from outpatient department and enrolled in study after proper consent. Patients age, presenting complaints, previous surgical scar, nature of previous surgery, underlying comorbidities/ risk factors for incisional hernia were noted. After proper evaluation, laparoscopic intraperitonealonlay mesh repair with or without primary closure of the defect (IPOM/ IPOM PLUS), depending upon the size of defect, using composite proceed mesh (oxidized regenerated cellulose+ Polypropylene+ Polydioxanone), was done. Mesh was fixed to the defect and parietal wall using tacks and transfascial sutures. Intraoperative findings; time for introduction, adjustment and fixation of mesh; hospital stay; complications and recurrence on follow up were noted.

RESULTS

During the study period, 36 females with incisional hernia following obstetrics and gynecological surgeries were admitted . Detailed clinical study was done, the results of which are enlisted below in table 1.

Table 1. Clinical profile of patients

Total No. of Patients		36 (100%)
Mean age (Years)		49.2
Presenting complaints	Swelling	29 (80.5%)
	Pain	6 (16.6%)
	Swelling with pain	1 (2.7%)
Previous scar	Pfannensteil	13 (36.12%)
	Lower midline	23 (63.88%)
Previous surgery	Caesarean section	14 (38.8%)
	Hysterectomy	17 (47.2%)
	Myomectomy	2 (5.6%)
	Ruptured ectopic	2 (5.6%)
	Ovarian cyst rupture	1 (2.7%)
Underlying comorbidity	Obesity	7 (19.4%)
	Diabetes	4 (11.1%)
	COPD	1 (2.7%)
	Smoking	1 (2.7%)
History of postoperative wound infection		2 (5.6%)

All patients underwent laparoscopic intraperitonealonlay mesh repair with or without primary closure of the defect (IPOM/ IPOM PLUS), depending upon the size of defect, using composite mesh. The following intraoperative and postoperative observations and followup complications were noted as listed in Table 2.

Table 2. Intraoperative and postoperative observations

Hernia defects in study group	Single defect	29 (80.6%)
	Multiple defects	7 (19.4%)
Time taken for introduction of mesh	4-170 sec.	
Adjusting and fixation of mesh	30-60 min.	
Mean hospital stay	2.1 days	
Seroma formation	3 (8.3%)	
Recurrence	2 (5.6%)	

DISCUSSION

The mean age of presentation of females with incisional hernia was 49.2 years. Our study showed that swelling at previous incisional site was the presenting complaint of majority of patients followed by pain. Most of the incisional hernia occurs through midline surgical scars following gynecological procedures whereas incidence is much less following pfannensteil incision. Previous midline hysterectomy was major contributor towards incisional hernia followed by previous caesarean section. Obesity was present in 7 (19.4%) patients, followed by diabetes in 4 (11.1%), COPD in 1 (2.7%) and smoking in 1 (2.7%) patients. There was history of wound infection following previous surgery in 2 (5.5%) patients. In the present study, all patients underwent laparoscopic IPOM/IPOM PLUS repair using composite mesh to observe intraoperative parameters and postoperative outcome. After adhesiolysis and reducing the contents of defect, it was observed that single defect was present in 29 (80.5%) patients and multiple defects in 7(19.4%) patients. Time taken for introduction of mesh into peritoneal cavity was in the range of 4-170 Sec and time taken for adjusting and fixation of mesh was in the range of 30-60 min. Patients were discharged after a mean of 2.1 days from hospital. Only postoperative complication in the immediate follow up was seroma formation in 3 (8.3%) patients. Recurrence was observed in 2 (5.5%) patients over a period of 18 months follow up.

CONCLUSION

Midline incision is the commonest cause of incisional hernia following gynecological surgeries. Laparoscopic intraperitonealonlay mesh hernioplasty using composite mesh gives acceptable results.

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