

Pantaloon Hernia Incidence in Lap Hernia Surgery at Tertiary Care Hospital

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Abstract

Background: The protrusion from abdominal cavity through the inguinal canal is called inguinal hernia. Although inguinal hernia can be direct or indirect and some cases because of posterior wall weakness hernia both Direct and Indirect hernia can be present in the same person. Pantaloon hernia is generally an intraoperative diagnosis. This study was conducted with the intention of identifying the incidence of pantaloon hernia in cases of endoscopic hernia repair. **Methods:** we retrospectively collected data of patients who underwent laparoscopic hernia repair from January 2015 to December 2017 at our tertiary care Army hospital in Delhi. **Results:** There were 81 patients who were operated for endoscopic hernia repair surgery, Total no. of hernias which were operated were 107. Mean age of patients was 50.2 with standard deviation of 12.80. 80.24% patients were male and 19.76% patients were female. Most of our patients had unilateral inguinal hernia (85.0%) among patients with unilateral hernia Most common form observed was indirect hernia (58%) and only 6.5% were pantaloon hernia. All the hernia repairs were elective procedures and all the surgeries were performed by associate professor and above level, Method of repair included TEPP (96.7%) and TAPP (3.4%). **Conclusion:** larger studies are required to know the true incidence of pantaloon hernia and a surgeon should always keep in his mind the possibility of encountering pantaloon hernia while operating a hernia.

Keywords: Pantaloon hernia; Direct hernia; Indirect hernia; TEPP; TAPP.

Introduction

Hernia is derived from a Latin word meaning "a rupture". Abdominal wall hernias that are frequently encountered in surgical practice account for 15% - 18% of all surgical procedures [1,2]. Worldwide, more than 20 millions hernias are operated per year [3]. More than 750,000 hernias are operated in USA and approximately 125,000 hernias are operated in United Kingdom per year [4]. The incidence of abdominal wall hernia in different countries varies from 100 - 300/100000 per year [3]. We are unable to find Indian data despite literature and medline search. Approximately 75% of all abdominal wall hernias cases [5] belong to groin. Risk of developing inguinal hernia in a lifetime is 15%-27% in men and 3% in women [6]. Although males are affected more commonly (7:1), the incidence of femoral hernia is four times higher in female.

Inguinal hernias are classified as either *direct* or *indirect*. The sac of an indirect inguinal hernia passes from the internal inguinal ring obliquely toward the external inguinal ring and ultimately into the scrotum. In contrast, the sac of a direct inguinal hernia protrudes outward and forward and is medial to the internal inguinal ring and inferior epigastric vessels. Although it sometimes can be difficult to distinguish between an indirect and a direct inguinal hernia, this distinction is of importance because the operative repair of these types of hernias is little different in either case. A pantaloon-type hernia occurs when there is both indirect and direct hernia component Figure 1. In one of the largest cohort study conducted by vestergaard et al [20] involving more than 38 thousand hernia repair incidence of pantaloon hernia was 4.1%.

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In recent times conventional hernioplasty has been almost stopped in most places, largely because of the number of recurrences. This is unfortunate for the training of residents because residents now mostly carry out a tension-free repair and know little about the anatomy of the inguinal canal.

The randomized prospective trials, randomizing conventional repair versus laparoscopic repair, have been largely replaced by randomized prospective trials of tension-free repairs using some type of mesh versus laparoscopic repairs, including the TAPP and the TEPP. Although open, mesh-based, tension-free repair remains the criterion standard, laparoscopic herniorrhaphy, in the hands of adequately trained surgeons, produces excellent results comparable to those of open repair [7,8].

A number of studies have shown laparoscopic repair of inguinal hernias to have advantages over conventional repair, including the following [9,10,11,12]:

- Reduced postoperative pain
- Diminished requirement for narcotics
- Earlier return to work

Laparoscopic repair has some disadvantages as well, including the following:

- Increased cost
- Lengthier operation
- Steeper learning curve
- Higher recurrence and complication rates early in a surgeon’s experience

The term laparoscopic inguinal herniorrhaphy can refer to any of the following three techniques:

- Totally extraperitoneal (TEP) repair
- Transabdominal preperitoneal (TAPP) repair
- Intraperitoneal onlay mesh (IPOM) repair [13,14,15,16].

Materials and Methods

We performed a retrospective review of all the

<i>Demographics</i>	
Total patients	81
No of procedures	107
Age in yrs (SD)	50.2(12.1)
Gender %	
Male	80.24%
Female	19.76%
Hernia laterality Bilateral	26
Right	63
Left	18

patients who underwent laparoscopic hernia repair At our centre from Jan 1st 2015 to 31st Dec 2016 we excluded who underwent open hernia repair or have been converted to open repair after starting laparoscopic surgery.

Medical records of all patients were reviewed and data of patients demographics, hernia characteristics, managements details were noted.

Our results our compared with other three studies in medical literature.

Results

There were 81 patients who were operated for endoscopic hernia repair surgery during the study period.

Total no of hernias which were operated were 107 as few of them had bilateral hernias.

Mean age of patients who were 50.2 with standard deviation of 12.1.

80.24% patients were male and 19.76% patients were female.

Most of our patient had unilateral inguinal hernia (85.0%) among patients with unilateral hernia.

Most common form observed was indirect hernia (58%) and only 6.5% were pantaloon hernia.

All the hernia repairs were elective procedures and all the surgeries were performed by associate

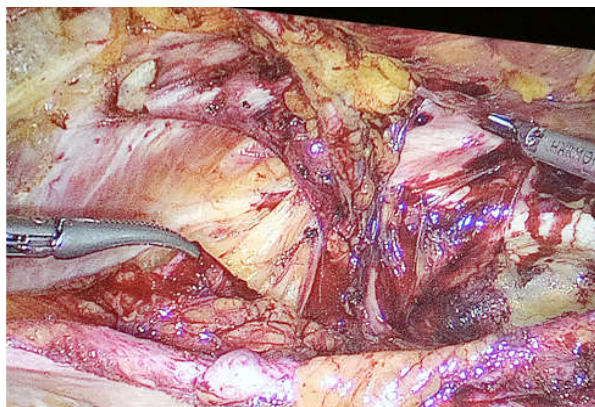


Fig. 1:

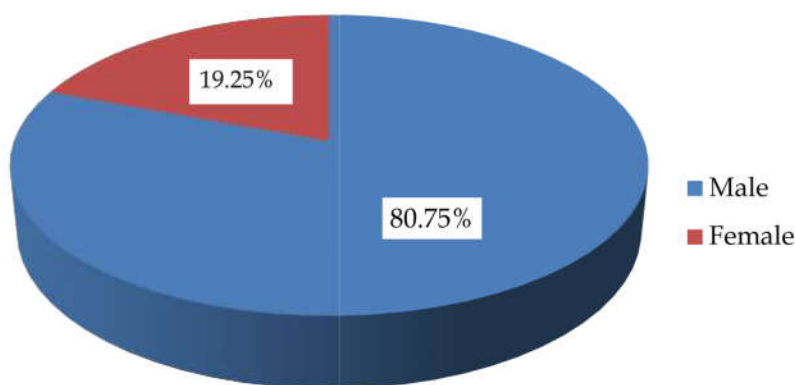
Comparision between different surgeries

Study	Total no of hernia surgery	Pantaloon hernia	Percentage
Our study	107	07	6.5
Theorodos et al [17]	104	06	5.7
Mark A reine et al [18]	1240	236	19.0
Kai xiong cheong et al [19]	520	44	8.4

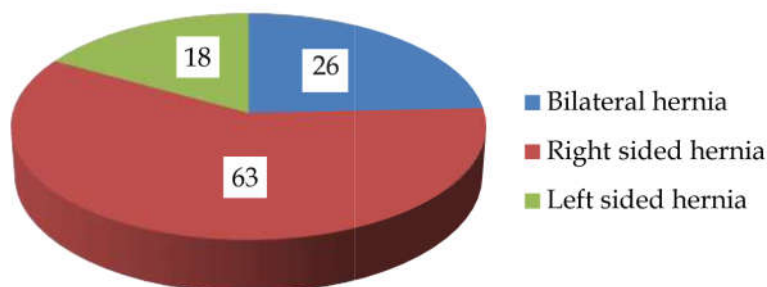
Break down of hernias

Breakdown of hernia types	No
Direct	42
Indirect	58
Pantaloon	7

Graph 1:



Graph 2:



professor and above level. Method of repair included TEPP (96.7%) and TAPP (3.4%).

Discussion

Our result suggest that pantaloon hernia is not an uncommon finding in laproscopic surgery and it should always be kept in mind to look for pantaloon hernia in whatever may be the pre op diagnosis.

In our study it is also seen that in 2015 when when lap hernia surgery was started in this centre patient selection was so that to post right sided hernia for laparoscopic surgery more as the handling and maneuvering is easier on right sided hernia but as the year passed and after gaining confidence more and more of left sided and bilateral hernias were

operated at this centre in 2015 our centre 25 right sided surgry were done and 02 bil in 2016 10 bil and 15 left sided hernia were oprted there were 05 case s in which preoperatively it was found to have one sided hernia but intraoperatively fond to have bilateral hernia although it is well known that TAPP hernia surgery is easier to learn than TEPP but at our centre more of TEPP surgery were performed but in our centre during the aforementioned period TEPP surgery was performed more commonly there were 04 TAPP surgeries and 103 TEPP surgeries in our hernia there were 45 diect hernias and 58 indirect hernias and 07 pantaloon hernias as per different studies right sided henis are more common (51.1%) and bil hernias are 6.9% jrsm short report . 2011 royal society of medicine press in our studies too there were 58.8% right sided hernias percentage of pantaloon hernia in our study and theodros and kai studies

were between 5.7 to 8.4% but in all these studies sample size was small where as in case of mark study where more than 1200 surgeries were performed pantaloon hernia was seen in 19% cases there is no study taken up till date to know incidence of pantaloon hernia in one of the observational study done by marie vestergaard in Denmark of over 40 395 hernia repair surgeries 36% pantaloon hernias were seen as we know pantaloon herhia is mostly a per op diagnosis most of the times preop diagnosis is generally either direct or indiect hernia and the incidence of pantaloon hernia can be from 5 to 19% as shown in different studies bove so surgeon should always be ready to tacke such hernia no matter what is pre op diagnosis results Within the cohort of 1 545 987 men, we identified 22 926 lateral, 15 877 medial and 1592 pantaloon or unspecified first-time inguinal hernia repairs.

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