Lichtenstein Tension Free Mesh Repair as a Treatment Modality for Inguinal Hernias: An Experience at Khyber Teaching Hospital, Peshawar.

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ABSTRACT

Background: Inguinal hernia is one the common conditions requiring surgical intervention. Probability of Inguinal hernias requiring surgery throughout life in males is up to 27% and in females is up to 3%.

Objectives: Our study aims at the effect of early post-operative pain scores and wound infection in patients with treatment of open inguinal hernia repair with mesh hernioplasty. Moreover we have also focused on the frequency of type of inguinal hernia and side of presentation.

Material and Methods: This cross sectional study was conducted at department of surgery Khyber teaching hospital Peshawar from January till august 2018. A sample of 120 patients was recruited into study. Data was collected by predesigned Performa and analyzed with SPSS 21.

Results: Out of 120 patients 87(72.5%) were male, 33(27.5%) female, mean age was 46.2± 7.3years. Frequency of type of hernia data showed 86(71.6%) patients had indirect inguinal hernia while 34(28.3) patients had direct inguinal hernia. 61(50.8%) patients had right sided inguinal hernia, 46(38.3%) left sided while 13(10.8%) had bilateral inguinal hernia. Post -operative hospital stay showed hematoma in 9(7.5%) patients, seroma in 33(27.5%) patients, and foreign body sensation in 19 (15.8%) patients. Average hospital stay was 2.7±1.3 days (minimum of 1 day, maximum of 9days). Those who develop complications were treated accordingly and all patients were discharged from hospital successfully.

Conclusion: Indirect inguinal hernia was more prevalent than direct inguinal hernia and right sided presentation more frequent than left sides. Post-operative complications showed Pain the most common followed by Wound infection, Seroma, Foreign body sensation and hematoma.

Key words: *Inguinal hernia, seroms, hematoma, foreign body sensation.*

This article may be cited as: Qazi M, Zeb J, Abbas S, Jan MM, Zarin M, Muslihuddin, et al. Lichtenstein tension free mesh repair as a treatment modality for inguinal hernias: an experience at khyber Teaching Hospital, Peshawar. J Saidu Med Coll Swat 2019;9(2):201-4.

INTRODUCTION

Inguinal hernia is one the common conditions requiring surgical intervention. Probability of Inguinal hernias requiring surgery throughout life in males is up to 27% and in females is up to 3%.[1,2] Its prevalence in men is seven times higher than in women and it increases with age[3]. Inguinal Hernias are more common on the right side than on the left[4-7]. Around 80,000 inguinal hernia repairs are performed each year in UK and 800,000 repairs each year in the US[8,9,10].

European guidelines on inguinal hernia have described Lichtenstein Hernioplasty as the Gold Standard treatment for open inguinal hernia repair[10]. There have been many studies which have published the superiority of Mesh Hernioplasty over non-mesh techniques for the repair of inguinal hernias[11]. Clinical trials have published the incidence of reduced recurrence rates with mesh prosthetic placement compared to sutured tissue repair, Chronic pain and foreign body sensation are more likely to be associated with mesh hernioplasty[12]. According to studies foreign body sensation is associated with 40% and chronic pain in around 30% of patients who underwent mesh repair[10,12,13].

Both open e.g. Lichtenstein repair and endoscopic techniques e.g. TEP and TAPP are recommended by the international guidelines[14,15]. However the endoscopic techniques are preferred over open techniques due to quick recovery and improved cost effectiveness according to a report from Switzerland, which published that 42% of inguinal hernias are currently being treated via endoscopic techniques[15,16].

Complications of inguinal hernia are obstruction, strangulation, incarceration or gangrene of the bowel in the hernia sack due to which surgical intervention is needed[17-19].There are many techniques for repair of inguinal hernia repair based upon modifications, recurrences faced which lead to the adoption of more precise techniques and expertise for the surgeons.

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Received: February 27th,2019, Accepted: November 12th, 2019

Lichtenstein tension free mesh Hernioplasty is reported to have some post operative complications such a foreign body hypersensitivity, discomfort and surgical site infections in patients[20]. We are sharing our experience regarding inguinal hernia repair as it would add to local database and help for developing local guidelines in future. Our study aims at the effect of early post operative pain scores and wound infection in patients with treatment of open inguinal hernia repair with mesh Hernioplasty. Moreover we have also focused on the frequency of type of inguinal hernia and side of presentation.

MATERIAL AND METHODS

This cross sectional study was conducted at department of surgery Khyber teaching hospital Peshawar from January till August 2018. A sample of 120 patients was recruited into study. All those patients who were admitted for inguinal hernia repair, had age more than 15years and no contraindication for surgery were included in study. Those who had any sort of contra indication to anesthesia, who had irreducible or recurrent hernia, were excluded from study. All patients underwent open Hernioplasty repair with mesh. Pain was scored by using visual analogue score system. Patients were followed till time of discharge from hospital. Data was collected by predesigned Performa and analyzed with SPSS 21. Mean and standard deviation was calculated for continuous variables while frequency and percentages for categorical variables. Data is presented in paragraphs and tables.

RESULTS

Out of 120 patients 112(93.3%) were male, 8(6.6%) female, mean age was 46.2± 7.3years (minimum 19years and maximum 66years). Regarding frequency of type of hernia data showed 86(71.6%) patients had indirect inguinal hernia while 34(28.3) patients had direct inguinal hernia.61 (50.8%) patients had right sided inguinal hernia, 46(38.3%) left sided while 13(10.8%) had bilateral inguinal hernia. Post operative hospital stay showed hematoma in 9(7.5%) patients, seroma in 33(27.5%) patients, foreign body sensation in 19(15.8%) patients detail given in table:1.

Average hospital stay was 2.7±1.3 days (minimum of 1 day, maximum of 9days). Those who develop complications were treated accordingly and all patients were discharged from hospital successfully.

DISCUSSION

Probability of Inguinal hernias requiring surgery throughout life in males is up to 27% and in females is up to 3%.[1,2] Its prevalence in men is seven times higher than in women and it increases with age[3]. In our study 93.3% of patients were males with a frequency of 6.6% female patients. Inguinal Hernias are more common on the right side than on the left[4-7]. In a study by Jarrad et al[23] out of the 297 patients in the study 53.2% of patients presented with right inguinal hernias and 30.3% presented with left and 15.8% with bilateral inguinal hernias. In our study out of 120 patients 50.8% of patients had right side inguinal hernias and 38.3% had left and 10.8% with bilateral inguinal hernias.

Table:1. Post operative events.

Complications		Frequency(n)	Percentages (%)
Foreign body sensation	Yes	19	15.8
	No	101	84.2
Hematoma	Yes	9	7.5
	No	111	92.5
Seroma	Yes	33	27.5
	No	87	72.5
Pain	Mild	72	60.0
	Moderate	47	39.2
	Severe	1	0.8
Wound infection	Yes	22	18.3
	No	98	81.7

Application of synthetic material like mesh for the repair of inguinal hernias provides support with minimal resistance but also promotes fibrosis, reaction to foreign body and scar formation.[1] In a study by Gatabi et al[3] repairing inguinal hernias with placement of mesh is considered to be a safe method with less post operative complications. In our study average hospital stay was 2.7±1.3 days where as in a study by Naeem et al[21], they stated the hospital stay of patients with inguinal hernia repair with mesh placement as one day close. Other studies being reported showed hospital stay comparable with our results.[22]

In our study superficial wound infection was noted 18.3% of patients where as in a study by Khalil et al[10] wound infection was reported in 10% of patients with repair of inguinal hernia with mesh placement, which responded to antibiotics. In another study by Cybułka et al[1] 9.2 % of patients with inguinal hernia developed postoperative wound infections with skin and subcutaneous tissue edema of inguinal region found in 3.7% of patients.

In our study rate of postoperative hematoma formation was 7.5% as comparison to a study by Cybułka et al[1] it is reported that organized hematoma was found in 5.5% of the patients. Moreover over seroma formation in our study is reported to be 27.5% whereas Khalil et al[10] reported seroma as a complication of hernia reapir to be 20% these frequencies vary depending on hospital, operative set up and OT hygiene.

In our study based upon VAS early post-operative pain in patients ranged from mild in 60% of patients, moderate in 39.2% of patients and severe in 0.8% of patients. In a study by Kalil et al[10] they have reported early post op pain based upon VAS as 4-9 in patients in whom standard heavy weight prolene mesh was used. It was also reported in the same study that in patients with heavy weight mesh who reported higher level of pain in first month had other complications as wound infection and seroma formation. Groin pain was reported as 19.4% in a study by Vupputuri et al[20] in patients in whom mesh was used.

CONCLUSION

Inguinal hernia being among common conditions requiring surgical intervention is seven times higher than in women and it increases with age. Its probability requiring surgery throughout life is up to 27% in males and is up to 3% in females.[1,2] Indirect inguinal hernia was more prevalent than direct inguinal hernia. Similarly right sided presentation was more frequent than left sides. Post-operative complications showed Pain as the most common complication followed by Wound infection, Seroma, Foreign body sensation and hematoma.

Acknowledgment

We acknowledge this whole research work to our kind supervisor and head of department Prof. Rooh Ul Muqim, Department of surgery Khyber teaching hospital, Peshawar and Dr. Syed Asad Maroof Assitant professor of surgery who supported and supervised us in whole study.

Conflict of interest: No conflict of interest among authors.

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