



## TO EVALUATE THE OUTCOME OF DARNING REPAIR IN OBSTRUCTED INGUINAL HERNIA IN MALE AT CMC HOSPITAL LARKANA.

Muharram Ali Abbasi<sup>1</sup>, Abdul Ghani<sup>2</sup>, Ehsanullah Malik<sup>3</sup>, Nadia Bhatti<sup>4</sup>, Sania Bhatti<sup>5</sup>, Waqar-e-Sahar Shah<sup>6</sup>.

### ABSTRACT

**INTRODUCTION:** Inguinal Hernia is operated by two methods. One is open and another laparoscopic. Open procedures include Bassini, Modified Bassini, Shouldice, Darning and Lichtenstein. Of them, the commonly performed after hernioplasty is Darning. It is tension free repair commenced from pubic tubercle and ended at pubic tubercle. It approximates inguinal ligament to conjoint tendon. It has better results as compared to others. **OBJECTIVE;** to evaluate the results of Darning repair in inguinal obstructed hernia in male patients. **TYPE OF STUDY:** Cross sectional **DURATION AND PLACE OF STUDY:** This is study of one year done from March 2019 to February 2020 at Chandka Medical College Hospital Larkana. **RESULTS:** Total 150 patients were selected but only 41 (27.33 %) had symptoms of obstructed inguinal hernia. Type of inguinal was seen in obstructive stage. 38 (93%) were suffering from irreducible indirect inguinal hernia whereas only 3 (7%) were diagnosed as direct inguinal hernia. Postoperative complications of obstructed inguinal hernia are various. 10 (24.39%) patients developed wound infection. 3 (7.31%) had hematoma postoperatively. Recurrence was in 1 (2.4%) patient. No one presented with complain of paresthesia over thigh. **CONCLUSION:** Darning repair in inguinal hernias is the better techniques s it is cost effective and least recurrent.

**KEY WORDS:** Inguinal Hernia, Hernioplasty, Darning, Paresthesia, Pubic Tubercle.

1. Assistant Professor, Surgery, SMBBMU, Larkana.
2. Associate Professor, Surgery, SMBBMU, Larkana.
3. Assistant Professor, Surgery, SMBBMU, Larkana.
4. Assistant Professor, Surgery, SMBBMU, Larkana.
5. Assistant Professor, Surgery, SMBBMU, Larkana.
6. Consultant Surgeon, SMBBMU, Larkana.

**Corresponding Author:** Muharram Ali Abbasi, Assistant Professor, Surgery, SMBBMU, Larkana. Email: [dr\\_muharramabbasi@yahoo.com](mailto:dr_muharramabbasi@yahoo.com)

**How to cite this article:** Abbasi MA<sup>1</sup>, Ghani A<sup>2</sup>, Malik E<sup>3</sup>, Bhatti N, Bhatti S<sup>5</sup>, Shah WS<sup>6</sup>. **TO EVALUATE THE OUTCOME OF DARNING REPAIR IN OBSTRUCTED INGUINAL HERNIA IN MALE AT CMC HOSPITAL LARKANA.** *JPUMHS*; 2022;12:02,24-27. <http://doi.org/10.46536/jpumhs/2022/12.02.354>

*Received April 23 2022, Accepted On 15 June 2022, Published On 30 June 2022.*

### INTRODUCTION

Inguinal hernia is simply defined as protrusion of contents of abdominal cavity through inguinal canal. Direct inguinal hernia occurs in 25-30% of patients and is usually seen commonly in male patients aged above 40 years. Men have 8 times higher incidence of inguinal hernias as compared to women.<sup>1</sup> In 2015, inguinal, femoral and ventral hernias affected 18.5 million people. It is common on right side as compared to left one. The ratio of male and female regarding the development of inguinal hernia is 27% and 3% respectively. Mortality due to external hernias in the world is nearly 55000 to 60,000 per year that was reported in 1999 and 2015.<sup>2</sup>

Pathophysiology of disease entails that indirect hernias follow the same route as the descending testis that migrate from abdomen

into the scrotum during embryological development of uro-genital organs. The existence of inguinal canal and scrotum makes male 25 times more vulnerable to develop inguinal hernia as compared to female.<sup>3</sup> To prevent hernia development, the strength of posterior wall of inguinal canal and shutter mechanisms dealing with increased intra-bdominal pressure prevent hernia formation. Physiological school of thought denies this mechanism and tells that hernia is only physiological difference between patient developed hernia and normal individual that is presence of aponeurotic extensions from transversus abdominis aponeurotic arch.<sup>4</sup>

The number of symptomatic patients is approximately 66%. They experience pain or discomfort during coughing, exercise or

bowel movements. While walking, the symptoms worsen and relieve when lying down. A bulging area may appear larger during standing position. The most important thing is strangulation in which severe pain and tenderness is noted. Ischemia and gangrene of contents can result with fatal consequences.<sup>5</sup>

Multiple risk factors cause the development of hernia. These include chronic obstructive pulmonary disease, smoking, obesity, pregnancy, appendectomy and chronic constipation apart from retention of urine. Genetic predisposition is also present in hernias and is commonly seen in certain families.<sup>6</sup>

Diagnosis is commonly done on clinical examination but the condition of contents is seen by Ultrasonography and CT scan. Multiple organs like appendix, urinary bladder and sigmoid colon are also found in the sac.<sup>7</sup>

Surgical correction of hernia is necessary and is called repair of hernia that should be tension free. Two methods are used in this regard. One option is open and another is laparoscopic. Multiple techniques are used like Basini, Shouldice, Darning, Lichtenstein, TAPP and TEPP.<sup>8,9</sup>

In open procedures, Darning is commonly performed in developing countries. Darning is a sewing technique for repairing of inguinal hernia. It was first introduced by Abrahamson and popularized by Molony. Studies on Daring repair have shown the decreased ratio of postoperative complications.<sup>10</sup>

The rationale of our study is to assess the postoperative complications of darning repair and find out it to be the better method of hernia repair for patients so the patients get benefit from results of our research in future.

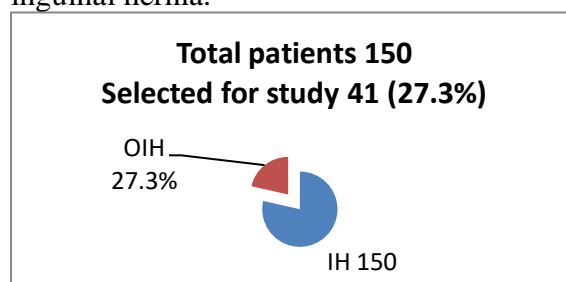
**MATERIAL AND METHODS**

This study was done in surgical department of Chandka Medical College Larkana. Total 150 patients were received from Surgical OPD and emergency department. Of them, 41 were found to be with irreducible hernia with obstructive symptoms. The duration of study was 1 year from March 2019 to February 2020. Clinical history was taken from the patients. Clinical examination of inguino-scrotal region along with examination of abdomen was done to see the obstruction of Gut or any other sign. Signs of obstruction over the hernia site were also observed. All other systems were also

examined. Reducible non obstructed hernia was excluded from the study. Irreducible hernia with cirrhosis of liver, inguino-scrotal trauma and uncontrolled diabetes were excluded from the study. Routine investigations were done. X ray chest was also done. Cardiac opinion was gotten. Anesthesia fitness was obtained and patient was shifted to Operation Theater and was operated accordingly. Wound was closed and patient was shifted to ward for postoperative care. 5 to 10 stay was done by the patients. Follow up period was kept for 6 months to one year to see the late complications of the Darning technique.

**RESULTS**

Total 150 patients were selected but only 41 (27.33 %) had symptoms of obstructed inguinal hernia.

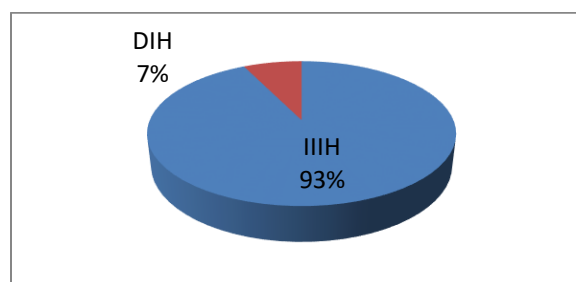


Age difference was also seen among patients. 12 (29.26%) were aged between 15 to 25 years whereas 23 (56.09%) were of age from 26 to 45 years. Only 6 (14.6%) patients age was 46 to 60 years.

**TABLE- 1 AGE OF PATIENTS**

S.NO:	AGE IN YEARS	NO OF PATIENTS	%
1	15-25	12	29.26%
2	26-45	23	56.09%
3	46-60	6	14.6%
TOTAL	n=15-60	41	100%

Type of inguinal was seen in obstructive stage. 38 (93%) were suffering from irreducible indirect inguinal hernia (IIIH) whereas only 3 (7%) were diagnosed as direct inguinal hernia (DIH) as is shown in Pie Chart 2



Contents of sac were also different. 24 (58.5%) patients had omentum. 15 (36.5%) had ileum as content. 1(2.4%) patient had sigmoid as content. 1(2.4%) patient had caecum and appendix.

**TABLE 2 CONTENTS OF SAC**

S.NO:	CONTENTS	NO OF PATIENTS	%
1	Omentum	24	58.5%
2	Ileum	15	36.5%
3	Sigmoid	1	2.4%
4	Caecum and appendix	1	2.4%
TOTAL		41	100%

Postoperative complications of obstructed inguinal hernia are various. 10 (24.39%) patients developed wound infection. 3 (7.31%) had hematoma postoperatively. Recurrence was in 1 (2.4%) patient. No one presented with complain of paresthesia over thigh.

**TABLE 3 POSTOPERATIVE COMPLICATIONS**

S.NO:	COMPLICATION	NO OF PATIENTS	%
1	Wound Infection	10	24.3%
2	Hematoma	3	7.3%
3	Recurrence	1	2.4%
TOTAL			34%

## DISCUSSION

Inguinal hernia repair is one of the most commonly performed procedures in the globe. Different surgical techniques were unveiled and applied on patients but due to their increased complications, these were replaced timely. The basic cause of development of all hernias including inguinal ones is that the fascia transversalis does not retain peritoneum. In male, inguinal hernias are associated with impaired collagen metabolism and weakening of fibro connective tissue of the groin. The technique of hernia repairs in inguinal region is very demanding. Various procedures have been introduced and still search of new procedures are continued but Darn procedure is seemed to be the better one.<sup>11</sup>

Various techniques have been discovered. Tissue based technique has the drawback of recurrence but Darning repair had less recurrence. Darn is cost effective and least complicated as compared to Basini and Shouldice repairs? These all techniques have

been discovered on the basis of recurrence of inguinal hernia repair. In Bassini and Shouldice, the recurrence is common due to fraying and tearing of inguinal ligament due to tension developed in methods. Darning is tension free repair with least complication rate. It approximates the inguinal ligament to conjoint tendon starting from pubic tubercle to deep inguinal ring and back to pubic tubercle.<sup>12</sup>

Molony got 0.8% recurrence rate with darn repair. Same was also recorded by Abrahamson, Lifschutz and Kingsnorth. Omer farooq in study reported 0.6%. Mills in study noted no recurrence. In our study, the recurrence rate was 2.4%.<sup>13</sup>

In a study, the infection rate was noted to be 6%. Scrotal induration was seen in 5%. Koukourou recorded no difference of early and late complications. Qazi et al showed postoperative wound infection was 12%. Scrotal hematoma, in same study, was recorded to be 6%. In our study, postoperative wound infection was 24.3% and scrotal hematoma was in 7.3%. In a study, no case of nerve entrapment neuralgia was noted. Same was seen in our study.<sup>14</sup>

In Sub Saharan Africa, many studies on inguinal hernia had been used. Mostly the Bassini methods were used as compared to Darning. Bassini has higher recurrence. Yeboah highlighted this fact in study in Africa. Another study done in Nigerian teaching hospitals also proved to be Darning repair as the better technique.<sup>15</sup>

## CONCLUSION

To sum up, it is concluded that Darning repair in inguinal hernias is the better techniques as it is cost effective and least recurrent rate.

**ETHICS APPROVAL:** The ERC gave ethical review approval

**CONSENT TO PARTICIPATE:** written and verbal consent was taken from subjects and next of kin

**FUNDING:** The work was not financially supported by any organization. The entire expense was taken by the authors

**ACKNOWLEDGEMENTS:** We are thankful to all authors who were involved in our study.

**AUTHORS' CONTRIBUTIONS:** All persons who meet authorship criteria are listed as authors, and all authors certify that they have participated in the work to take public responsibility of this manuscript. All authors read and approved the final manuscript.

**CONFLICT OF INTEREST:** No competing interest declared.

## REFERENCES

1. Khyrallah AA. Lichtenstein procedure versus darn repair in primary inguinal hernia surgery. *Al-AZhar Assiut Med J*. 2017; 15:196-202.
2. Fitzgibbons RJ, Jr; Forse, RA (19 February 2015). "Clinical practice. Groin hernias in adults". *The New England Journal of Medicine*. 2015;**372** (8): 756–63.
3. Burcharth J, Pommergaard HC, Rosenberg J. "The inheritance of groin hernia: a systematic review". *Hernia*. 2013;**17** (2): 183–9.
4. Simons MP, Aufenacker T, Bay-Nielsen M, et al. 'European Hernia Society guidelines on the treatment of inguinal hernia in Adult patients'. *Hernia*. 2009; **13** (4): 343–403.
5. James Harmon M.D. Lecture 13. Human Gross Anatomy. University of Minnesota. September 4, 2008.
6. Olasehinde O, Lawal OO, Agbakwuru EA, Adisa AO, Alatishe OI, Arowolo OA et al. Comparing Lichtenstein with darning for inguinal hernia repair in an African population. *Hernia* 2016; 20:667-674.
7. Nasir M, Paracha SZ, Khan IA, Tahir M, Wahab K. Outcome of darn repair with polypropylene for primary inguinal hernia: an experience of 837 cases. *KMUJ* 2013; 5:31-35.
8. Azeem Khan J, Imaduddin S, Razzak R, Haider S, Zaman J. Darning versus mesh repair for inguinal hernia: when do patients return to normal physical activity? *Pak J Surg* 2015; 31:173-178.
9. Vasantharaja R, Sreejayan MP. Early postoperative morbidity pattern of Lichtenstein hernioplasty under local anaesthesia. *J Med Res Pract* 2017; 6:28-33.
10. Ergönenç T, Beyaz SG, Özocak H, Palabıyık O, Altıntoprak F. Persistent postherniorrhaphy pain following inguinal hernia repair: a cross-sectional study of prevalence, pain characteristics, and effects on quality of life. *Int J Surg* 2017; 46:126-132.
11. Stephenson BM, Kingsnorth AN. Inguinal hernioplasty using mosquito net mesh in low income countries an alternative and cost effective prosthesis. *BMJ* 2011; 18:1237-1247.
12. K. Ronka, J. Viromer, J. Kossi, T. Hulm, S. Silvastis, T. Hakala, et al. Randomized multicentre trial comparing glue fixation, self-gripping mesh and suture fixation of mesh in Lichtenstein hernia repair finn mesh study *Ann Surg*, 2015:262. 714-720.
13. AghaRA. , A.J. Fowler, S. Rammohan, I. Barai, D.P. Orgill, PROCESS group The process statement: preferred reporting of case series in surgery *Int J Surg*, 2016: 36: 319-323.
14. Dhumale R, Tisdale J, Barwell N: Over a thousand ambulatory hernia repairs in a primary care setting. *Ann R Coll Surg Engl* 2010; 92:127-130.
15. Bittner, R.; Montgomery, M. A.; Arregui, E.; Bansal, V.; Bingener, J.; Bisgaard, T.; Buhck, H.; Dudai, M.; Ferzli, G. S. "Update of guidelines on laparoscopic (TAPP) and endoscopic (TEP) treatment of inguinal hernia (International Endohernia Society)". *Surgical Endoscopy*. 2015;29(2):289-321
16. Olasehinde OO, Adisa AO, Agbakwuru EA, Etoneyaku AC, Kolawole OA, Mosanya AO. A 5-year review of darning Technique of inguinal hernia repair. *Niger J Surg* 2015; 21:52-5.
17. Olasehinde OO, Adisa AO, Agbakwuru EA, Etoneyaku AC, Kolawole OA, Mosanya AO. A 5-year review of darning Technique of inguinal hernia repair. *Niger J Surg* 2.



© 2021 This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), **Attribution-Share Alike CC BY-SA**. This license lets others remix, adapt, and build upon your work even for commercial purposes, as long as they credit you and license their new creations under the identical terms