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Research Article

**COMPARISON OF EFFICACY OF POLYPROPYLENE MESH
VERSUS POLYPROPYLENE DARN FOR THE PRIMARY
INGUINAL HERNIA REPAIR AND RECURRENCE RATE****¹Dr. Syed Fakhar Abbas Shah, ²Dr. Muhammad Adnan Ahmad, ³Dr. Muhammad Ali
Zaman**¹Allama Iqbal Medical College, Lahore²Mohi-ud-Din Islamic Medical College Mirpur, Azad Kashmir³Rawal institute of Health Sciences, Islamabad**Abstract**

Purpose: To evaluate the results in patients undergoing polypropylene mesh or polypropylene end inguinal hernia repair.

Study Design: A case control Study.

Configuration and Duration: In the Surgical Unit II of Jinnah Hospital Lahore for one year duration from April 2017 to April 2018.

Methodology: The study included 260 male patients between the ages of 18 and 80 years. The exclusion criteria are recurrent, bilateral, irreducible and strangulated hernias. Randomization was performed in two groups, ie, repair with polypropylene mesh or polypropylene darn. Repair was performed under general, medullary or local anesthesia.

Results: The total number of patients studied was 260. Surgery was performed by surgeons or consultants. In 165 patients, hernia repair was performed using a polypropylene, while in 95 patients the hernia performed with darning and polypropylene 2/0. Other complications and return to normal activity were almost equal in both groups, while 1.81% was the recurrence rate in mesh group much lower than in the darn group, which was 3.15% in the review one year later.

Conclusion: Mesh repair is superior to darning in sense of relapse within a year.

Key words: Inguinal hernia, mesh repair, repair.

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INTRODUCTION:

The hernia is a protrusion of a portion of a viscous part through an abnormal opening in the walls of the contact cavity. It can occur in men and women of all ages. 80% of the hernia is inguinal, 92% is male and 18% is under 15 years of age. It is one of the most common operations covering 10 to 15% of all surgical procedures. Approximately 800,000 repairs are performed annually in the United States. There are many ways to correct inguinal hernia with more than 80 surgical techniques described since 1887, Darning, Moloney et al. It is claimed to be a cheap and effective way as described. The recurrence rate is 0.8%. A comprehensive study was conducted to assess the results of Lichtenstein inguinal hernia repair with a zero recurrence rate in the individual series. Recurrence rate after inguinal hernia repair varies between 0.2% and 33% according to surgical methods, surgical experience, hospital type and follow-up period. Some studies have shown that the short-term results of hernia with mesh repair are superior to non-mesh repair but due to the limited data available, the long-term results of repair cannot be evaluated. The aim of our study was to compare the polypropylene network with polypropylene darn commonly used in inguinal hernia repair in men and to evaluate recurrence within one year.

MATERIALS AND METHODS:

This case control Study was conducted in the Surgical Unit II of Jinnah Hospital Lahore for one year duration from April 2017 to April 2018. All men aged between 18-80 years with primary inguinal hernia were included in the study. Inpatients were examined and thoroughly investigated. Patients with bilateral, irreducible, strangulated or recurrent hernia were not included in the study. The hernia repair was performed under general, spinal or local anesthesia as determined by the anesthesiologist. Patients who agreed to be on the trial were randomly assigned to one of two groups to repair with a polypropylene mesh or polypropylene darn. Operations were performed by surgeon registrars or consultants. In 190 patients, local anesthesia was applied and to the spine in 54 patients and in 16 patients under G.A.

Mesh repair was performed on 165 patients according to protocol 6 using a 7.5 x 15 cm prosthetic polypropylene mesh. The mesh is fixed to the rear wall of the inguinal canal with several circumferential knots with 2/0 polypropylene. The spermatic cord was placed between the two ends of the mesh to form a new deep inguinal ring. In 95 patients, repair was performed by repairing monofilament with 2/0 polypropylene which is not absorbable and is relatively inert. The first suture was taken from a groin tubercle and a puncture was performed between each joint and the inguinal ligament, without tension in the non-woven form. The procedure was stress-free. An excellent description of both techniques was described by Maddern et al. Intravenous antibiotics and some analgesia was applied to all patients according to the severity of pain. The patient was discharged on the 1st postoperative day. After surgery, the patients were evaluated 10 days, one month and one year after the surgery due to recurrence and other complications.

RESULTS:

From 260 patients 163 (62.69%) had indirect inguinal hernia and 84 (32.30%) had direct inguinal hernia while pantaloon hernia was observed in 13 patients (5%). The repair was performed with 2/0 polypropylene in 95 patients did not affected by the type of inguinal hernia, while 165 patients with polypropylene mesh were repaired. The mean age in the group of mesh was 54 years, while it was 52 years in the darn group. The right-sided hernia was dominant: 93 in the mesh group from total of 165 and 61 in the darn group out of 91. There was no significant difference between the two groups except the recurrence rate. Recurrence in the darn group was higher than the mesh group.

3 cases had (1.81%) recurrent hernia after mesh repair and were characterized by deep inguinal ring due to separation of the mesh in this area. In the darn group the recurrence rate was 3.15%. The number of recurrences and other complications are shown in Table I.

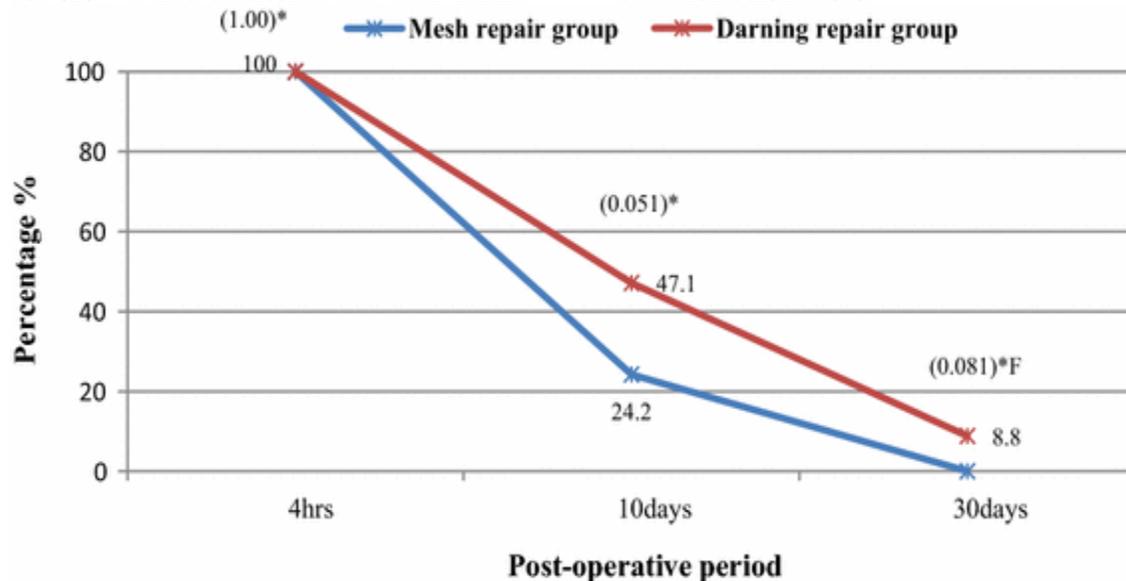
Complications	Mesh Group (n=165)	Darn Group (n=95)
Haematoma	7(4.24%)	5(5.26%)
Seroma	6(3.63%)	3(3.15%)
Wound Infection	4(2.42%)	3(3.15%)
Neuralgia	3(1.81%)	2(2.10%)
Urinary Retention	11(6.66%)	7(7.36%)
Recurrence	3(1.81%)	3(3.15%)

Table I. Complications

DISCUSSION:

In this study, 3 (1.81%) relapses were seen in the mesh group after one year of follow-up, and 3 (3.15%) were found to be in the opposite group with the same relapse rate in both groups. Koukourou et al. In addition, the recurrence rate in the Shouldice method was higher than 1.1% reported in the Clinic or general surgery practice. Short-term follow-up may not show a true recurrence rate after hernia

repair. It has been suggested that 10% of the 10 years of follow-up is less than 20% because of the relapse, because it will not be evident for 15 years, so it is more likely that due to the lack of follow-up recurrence rates are less predicted. In the short term, in addition to the available data on long-term follow-up mesh repair, primary inguinal hernia repair in all centers has been recommended, especially in educational institutions.



CONCLUSION:

From this study, it was discovered that the best repair method for primary inguinal hernia was a polypropylene mesh with a lower recurrence rate than any form of open inguinal hernia repair.

REFERENCES:

1. Çalışkan, Yahya Kemal, Celal Özkara bulut, and Arslan Kaygusuz. "Evaluation of Lichtenstein and posterior wall darn techniques in inguinal hernia surgery: A prospective cohort study."

- (2018). Çalışkan, Y.K., Özkarabulut, C. and Kaygusuz, A., 2018. Evaluation of Lichtenstein and posterior wall darn techniques in inguinal hernia surgery: A prospective cohort study.
2. Wu, James J., Joshua A. Way, Guy D. Eslick, and Michael R. Cox. "Transabdominal pre-peritoneal versus open repair for primary unilateral inguinal hernia: a meta-analysis." *World journal of surgery* 42, no. 5 (2018): 1304-1311. Wu, J.J., Way, J.A., Eslick, G.D. and Cox, M.R., 2018. Transabdominal pre-peritoneal versus open repair for primary unilateral inguinal hernia: a meta-analysis. *World journal of surgery*, 42(5), pp.1304-1311.
 3. Köhler, G., Fischer, I., Kaltenböck, R. and Schrittwieser, R., 2018. Minimal Invasive Linea Alba Reconstruction for the Treatment of Umbilical and Epigastric Hernias with Coexisting Rectus Abdominis Diastasis. *Journal of Laparoendoscopic & Advanced Surgical Techniques*.
 4. Ahmed, Ahmed E., Wael B. Ahmed, Mohammad Ahmad Omar, and Alaa Ahmad Redwan. "Desarda versus Lichtenstein repair for inguinal hernia: a randomized, multi-center controlled trial with promising results." *International Surgery Journal* 5, no. 8 (2018): 2723-2726.
 5. Pawar, Tushar, Abhang Satshil Chandrakant, Sanam S. Somani, Tabish Rayee, Shabib Khan, Agraj Mishra, Nirav Patel, and Robin Gouhar. "A COMPARATIVE STUDY OF LAPAROSCOPIC TOTAL EXTRAPERITONEAL REPAIR TECHNIQUE VERSUS OPEN TENSIONFREE (LICHTENSTEIN) REPAIR TECHNIQUE FOR UNCOMPLICATED PRIMARY UNILATERAL INGUINAL HERNIA." *INDIAN JOURNAL OF APPLIED RESEARCH* 8, no. 1 (2018).
 6. Elhendawy, Abdelaziz Osman, Osama Hasan Abd-Raboh, Taha Ahmad Ismail, and Abdelmonem Ahmad Nagy. "Randomized Comparative Study Between Laparoscopic Transabdominal Pre-Peritoneal Versus Totally Extraperitoneal Approach in Inguinal Hernia Repair." *Age (in years)* 1 (2018): 0-110.
 7. Baid, A., Attri, P.C. and Chaudhary, N., 2018. A Prospective Hospital based study to compare the effectiveness and safety of Laparoscopic (TEP/TAPP) and conventional open (Lichtenstein) repair and there outcomes in the management of Inguinal Hernia. *INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH*, 6(3).
 8. Joshi, Brikh Raj, Swotandra Gautam, Suresh Sah, Nabin Poudel, and Prashrit Thapa. "Outcome of Complicated Groin Hernia Repair at BP Koirala Institute of Health Sciences: A Retrospective Study." *Birat Journal of Health Sciences* 3, no. 2 (2018): 395-398.
 9. Marković, Miroslav, Mihailo Bezmarević, Milan Ilić, Marina Dragičević, and Aleksandar Andrić. "Retrospective analysis of 1,211 operated patients due to groin hernia with open surgical approach: Single center experience." *Vojnosanitetski pregled* 75, no. 1 (2018): 78-82.
 10. Atmaca, Ali Fuat, Nurullah Hamidi, Abdullah Erdem Canda, Murat Keske, and Arslan Ardicoglu. "Concurrent Repair of Inguinal Hernias with Mesh Application During Transperitoneal Robotic-assisted Radical Prostatectomy: Is it Safe?." *Urology journal* (2018).
 11. El Maksoud, Walid M. Abd, and Khaled S. Abbas. "Onlay hernioplasty versus Rives–Stoppa repair for paraumbilical hernia associated with divarication of recti in diabetics in terms of recurrence and surgical site infection: a prospective randomized controlled trial." *The Egyptian Journal of Surgery* 37, no. 4 (2018): 453.
 12. Abdalla, Gamal M., Sami M. Taha, Saad AlGarni, Saif AlSobhi, Mohammed N. Mohammed, Ibrahim Salih, Suleiman Konney, and Mohamed D. Awadalla. "Huge inguinal hernia in underserved areas: an oblivion problem." *Sudan Med J* 54, no. 2 (2018): 100-106.
 13. Hiremath, Somashekhar Virupaxayya, and Shahejan Chimansab Nadaf. "KEYWORDS Groin Hernia Surgical Repair, Congenital Hernia Herniotomy, Acquired Hernia Hernioplasty (Meshplasty)." *GROIN HERNIA-REVISITED* 97440 (2018).
 14. Cherla, Deepa V., Oscar A. Olavarria, Karla Bernardi, Cristina P. Viso, Maya L. Moses, Julie L. Holihan, Tien C. Ko, Lillian S. Kao, and Mike K. Liang. "Investigation of Financial Conflict of Interest among Published Ventral Hernia Research." *Journal of the American College of Surgeons* 226, no. 3 (2018): 230-234.
 15. Gallimore, Sarah. "Radiographic imaging for non-specific low back pain: the communication of radiology report findings." PhD diss., Bournemouth University, 2018.