

Comparitive Study of Conventional Mesh Versus Self Retaining Mesh In Lichenstein Inguinal Hernia Repair

Dr.Karthikeyan M.S.,Prof Dr.M.Rajasekar M.S.
Gmkmch, Salem.

Corresponding Author:Prof Dr.M.Rajasekar M.S.

Abstract

Aim:

- 1.To study the operative time in fixing the mesh
- 2.To compare the postoperative pain and postoperative infection in both groups.

METHODOLOGY:

This prospective study comprised of 40 cases of inguinal hernia which were randomly divided into two groups of 20 each named group A and group B. Group A includes Lichensteins repair using conventional mesh and group B includes lichensteins repiar using self- retaining mesh .detailed history and examination done and recorded.patients were intraoperatively for time taken for surgery and postoperatively for complications.Pain was measured using the pain visual analog scale.Results were based on Intraoperative time andpostoperative complications like pain,infection and recurrence.

RESULTS:

On comparing the both groups of patients The operative time was low in the Self-Retaining Mesh group with the maximum time reaching between 40-45 minutes for 45% of the participants.incidence of pain was higher among the Conventional Mesh group ($p < 0.05$).The incidence of post-operative infection was also remained higher among Conventional Mesh group ($n=5, 25%$) compared to Self-Retaining Mesh group ($n=2, 10%$).

CONCLUSIONS:

Lichenstein inguinal hernia repair using selfretaining mesh has an advantage over conventional mesh fixation methods.patient with self retaining mesh experienced less post operative pain,lesser incidence of infection,lesser operating time.hence it lies far above over the conventional mesh fixation techniques.

Date of Submission: 20-11-2020

Date of Acceptance: 06-12-2020

I. Introduction:

Inguinal hernia is one of the most commonly performed surgery in the world. Since the beginning of the modern surgery, the hernia repair has undergone several modifications and in the last decade has accelerated due to the addition of specialised hernia clinics and introduction of tension free repair and laparoscopic repair. This has led to the replacement of traditional suture based repair with the tension free mesh repair. From bassini's heralding of the modern era to today's mesh based surgery repairs,the history parallels closely the evolution in anatomical understanding and development of modern techniques.Currently lichenstein repair remains the goldstandard next to laparoscopic repair.One of the most commonly reported thing post operatively is chronic pain that can be attributed to the fixation techniques.The modifications began with the introduction of nonabsorbable sutures, absorbable sutures, usage of glue and has today come to self-fixating systems.It is being used in inguinal and incisional hernia repairs. Self retaining mesh is known to offer better comfort after surgery. It also gives the physicians the ability to accurately position and secure the mesh within a short span of 60 seconds. This may help in the reduction of overall surgery time.The polyester mesh is macroporous and contains resorbable polylactic acid (PLA) micro-grips on one side. This helps to quickly secure the mesh without the need for sutures, fibrin glue, tacks or any form of fixation

II. Materials and Methods

Aim:

- 1.To study the operative time in fixing the mesh
- 2.To compare the postoperative pain and postoperative infection in both groups.

Study design

Prospective Study

Place of study

GMKMC hospital

Study period

December 2017 to September 2019

Study population

Patients admitted to department of surgery GMKMCH , during study period dec 2017 to sept 2019, satisfying inclusion and exclusion criteria are considered into study.

Inclusion criteria:

1. Patients with primary uncomplicated inguinal hernia
2. Patients aged above 20 yrs
3. Patients with unilateral hernia

Exclusion criteria:

1. Patients with recurrent hernia
2. Patients below 20 yrs
3. Patients with bilateral hernia, femoral hernia
4. Patients with complicated hernias like- irreducibility, obstruction, strangulation, incarceration
5. Patients with psychiatric problems, pregnancy, DM
6. Patients with associated hydrocele

Methodology:

This prospective study comprised of 40 cases of inguinal hernia which were randomly divided into two groups of 20 each named group A and group B. Group A includes Lichensteins repair using conventional mesh and group B includes lichensteins repiar using self- retaining mesh .detailed history and examination done and recorded.patients were intraoperatively for time taken for surgery and postoperatively for complications.Pain was measured using the pain visual analog scale.Results were based on Intraoperative time andpostoperative complications like pain,infection and recurrence.

III. Results

OPERATING TIME

Operative time Self-Retaining Mesh	Frequency	Percent
35-40	1	5.0
30-35	2	10.0
35-40	8	40.0
40-45	9	45.0
Total	20	100.0

Operative time Conventional Mesh	Frequency	Percent
45-50	2	10.0
45-55	1	5.0
50-55	4	20.0
50-60	1	5.0
55-60	8	40.0
60-65	2	10.0
65-70	2	10.0
Total	20	100.0

POST OPERATIVE INFECTION

Conventional Mesh Group	Frequency	Percentage
Post operative infection		
Nil	15	75
Minimal	5	25

Self-Retaining Mesh Group	Frequency	Percentage
Post operative infection		
Nil	18	90
Minimal	2	10

POST OPERATIVE PAIN

Post Operative Pain- Conventional Mesh	Frequency	Percentage	Post Operative Pain- Self-Retaining Mesh	Frequency	Percentage
Mild	5	25	Mild	16	80
Moderate	11	55	Moderate	4	20
Severe	4	20	Severe	-	-

IV. Discussion

The mean age of the participants in the Self-Retaining Mesh group is 35.7 years with a standard deviation of 6.93 years ranging between 21-47 years. The mean age of the participants in the Conventional Mesh group is 29.15 years with a standard deviation of 6.62 years ranging between 20-40 years. In Self-Retaining Mesh group, 50% (n=10) had right sided hernia while the rest 50% (n=10) had left sided hernia. In the Conventional Mesh group, 55% (n=11) had right sided hernia while the rest 45% (n=9) had left sided hernia.

In Self-Retaining Mesh group, 40% (n=8) had direct hernia while the rest 60% (n=12) had indirect hernia. In the Conventional Mesh group, 40% (n=8) had direct hernia while the rest 60% (n=12) had indirect hernia. The operative time was low in the Self-Retaining Mesh group with the maximum time reaching between 40-45 minutes for 45% of the participants (n=9). In the Conventional Mesh group, it was longer with maximum time reaching 65-70 minutes. The majority of them having operation time between 55-60 minutes (n=8, 40%).

Pain was higher among the Conventional Mesh group (p<0.05). The incidence of post-operative infection was higher among the Conventional Mesh group (n=5, 25%) compared to Self-Retaining Mesh group (n=2, 10%). None of them had recurrence in any of the groups

V. Conclusions

Lichenstein inguinal hernia repair using selfretaining mesh has an advantage over conventional mesh fixation methods.patient with self retaining mesh experienced less post operative pain,lesser incidence of infection,lesser operating time.hence it lies far above over the conventional mesh fixation techniques.

References

- [1]. Lim L,Gilyard SM,Sydorak RM,Lau ST,Yoo EY,Shaul DB, Minimally Invasive Repair of Pediatric Morgagni Hernias Using Transfascial Sutures with Extracorporeal Knot Tying. The Permanente journal. 2019;
- [2]. Nicholson, S, Keane, T.E., Devlin, H.B. Femoral hernia: an avoidable source of surgical mortality. (1990) Br J Surg 77(3): 307-308.
- [3]. Cobaleda, F.S.B., Muñoz-Najar, A.G., Trujillo, B.M., et al. Recurrent inguinal hernia: treatment using a preperitoneal approach and a wide polypropylene mesh prosthesis. (2000) Cir Esp 67: 354-357.
- [4]. Acevedo, A., Reyes, E., Herrera, J.C. Femoral hernia: study of the posterior wall of the Inguinal Canal. (2005) Reuchi Cir 57: 495-499.
- [5]. Townsend, C.M., Beachamp, R.D., Evers, B.M., et al. Sabiston Textbook of Surgery. 20th ed. The Biological Basis of Modern Surgical Practice . (2017) Elsevier Saunders, USA.
- [6]. Wagh PV, Leverich AP, Sun CN, White HJ, Read RC (1974) Direct inguinal herniation in men: a disease of collagen. J Surg Res 17:425–427
- [7]. Lichtenstein IL, Shulman AG, Amid PK (1989) The tension-free hernioplasty. Am J Surg 157:188–193
- [8]. Duber R (1991) Neuronal plasticity and pain following peripheral tissue inflammation or nerve injury. In: Bond MR, Charlton JE, Woolf CJ (eds) Proceedings of the VIth World Congress in pain. Elsevier, Amsterdam, pp 263–276
- [9]. Wantz GE (1991) Atlas of hernia surgery. Raven, New York, p 19
- [10]. ichtenstein IL, Shulman AG, Amid PK, Montllor M (1988) Cause and prevention of post-herniorrhaphy neuralgia: a proposed protocol for treatment. Am J Surg 155:786–790
- [11]. Smedgerg SGG, Broome AEA, Gullmo A (1984) Ligation of the hernia sac? Surg Cl NA 64:99
- [12]. Barnes JP (1987) Inguinal hernia repair with routine use of Marlex mesh. Surg Gynecol Obstet 165:33–37

Dr.Karthikeyan M.S., et. al.“Comparitive Study of Conventional Mesh Versus Self Retaining Mesh In Lichenstein Inguinal Hernia Repair.”*IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 19(12), 2020, pp. 38-40.