



“COMPARATIVE STUDY BETWEEN LIGHT WEIGHT MESH AND STANDARD PROLENE MESH IN LICHTENSTEIN HERNIA REPAIR”

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KEYWORDS :

INTRODUCTION

Inguinal hernias are one of the most common surgical conditions faced by surgeons over the years.

In 1986, the tension free inguinal hernia repair with mesh was described by Lichtenstein. Lichtenstein repair has become the most popular open technique for inguinal hernia repair and has been shown to have lower recurrence rates, simplicity of repair, and the decreased post operative pain when compared with tissue based hernia repair.

The implantation of mesh and the resultant inflammatory reaction may also lead to the formation of a rigid scar plate with loss of abdominal wall pliability and changes in abdominal wall compliance. Lightweight meshes with reduced polypropylene content and larger pore size have demonstrated reduced inflammation and improved integration in surrounding tissues. They are also associated with decreased complaints of pain, paraesthesia and improved abdominal wall compliance while providing adequate strength.

OBJECTIVES

To compare light weight mesh with standard prolene mesh in Lichtenstein hernia repair with respect to recurrence, seroma, wound infection, chronic pain and foreign body sensation and time taken to return to normal work at 1, 6 and 12 months follow up

METHODOLOGY

This comparative study between Lightweight mesh and standard prolene mesh in Lichtenstein's hernia repair for inguinal hernia was conducted from the patients admitted with the diagnosis of unilateral primary inguinal hernia, Santhiram medical college and hospital, Nandyal from March 2018 to 2019. The patients admitted in Santhiram general hospital were subjected to Light weight Mesh (ULTRAPRO) Lichtenstein's hernia repair supplied free of cost by the hospital. The patients admitted in Santhiram hospital were subjected to standard prolene mesh lichtenstein's hernia repair.

Inclusion criteria:

- Men 20 years of age or older with unilateral primary inguinal hernia.
- Patients who gave consent for the procedure.

Exclusive criteria:

- Females.
- Recurrent hernia
- Presence of bowel obstruction, strangulation, peritonitis or perforation.
- Associates femoral hernia.
- Patients undergoing orchidectomy in the same procedure
- Patients medically unfit for surgery.
- Patient who refused investigation and any kind of surgical procedures were excluded

The present study was carried out in the Department of General Surgery in Santhiram Medical College & General Hospital, Nandyal. One hundred and fifty cases of unilateral primary inguinal hernia were included in the study after taking their consent. They were subjected to

Lightweight mesh or Standard prolene mesh Lichtenstein hernia repair. Evaluation of all- the patients included in the study was done regarding the history, physical findings, operative findings and postoperative complications. 75 patients underwent repair with Lightweight mesh Lichtenstein hernia repair and 75 patients underwent repair with standard Prolene mesh Lichtenstein hernia repair. All the cases in both the groups were followed for a period of one year. The patients were followed up at one month, six month and 1 year intervals for any complication or recurrence. Any recurrence of hernia was considered an end point. The following observations were made during the course of the study:

TABLE 1: COMPARISON OF AGE WISE DISTRIBUTION OF CASES

Age group (yrs)	Standard Prolene mesh n(%)	Light weight mesh n(%)
20-30	10(13.33)	13(17.33)
31-40	12(16)	08(10.66)
41-50	17(22.66)	20(26.66)
51-60	22(29.33)	16(21.33)
61-70	12(16)	11(14.66)
70+	02(2.66)	07(9.33)
Total	75	75

TABLE :4 (b): COMPARISON OF DIRECT / INDIRECT SAC

	Standard prolene mesh n(%)	Lightweight mesh n(%)
Direct	61 (81.33)	57 (76)
Indirect	14 (18.66)	18 (24)
Total	75 (100)	75 (100)

Numbers in parenthesis indicate percentages.

A Majority of SACS found were direct in both the groups.

TABLE 10 : COMPARISON OF RECURRENCE

	Standard prolene mesh		Light weight mesh	
	Yes	No	Yes	No
1 month	-	75(100)	-	75(100)
6 months	-	75(100)	-	75(100)
1 year	-	75(100)	-	75(100)

Numbers in parenthesis indicate percentages.

None of the patient in both the mesh groups had any recurrences during the follow up period.

DISCUSSION

All inguinal hernias share the common feature of emerging through the myopectineal orifice of Fruchaud, the opening in the lower abdominal wall bounded above by the myoaponeurotic arch of the lower edges of the Internal oblique and the Transverses abdominus muscle, and below by the pectineal line of the superior pubic ramus. Our patients on the other hand want their period of convalescence and rehabilitation to be uncomplicated in both short and long term outcome so as to return to their normal daily activities. They need less pain and better quality of life post operatively with minimal surgical morbidity in the long term. Currently, two major techniques of hernia repair exist 1) Pure tissue repairs 2) Tension free or mesh repairs At present, tension-free pre shaped mesh hernioplasties have become a gold standard for most operating surgeons and over the last decade several types of meshes have evolved, and are used as single flat meshes or used in conjunction with three dimensional plugs. In 1984, Lichtenstein addressed the issue of tension by popularizing routine use of mesh (monofilament polypropylene meshes) ² which was laid on posterior wall of the inguinal canal, and a slit made at the lateral end of the mesh, creating two tails, which pass around the cord as it emerges from the internal ring. Presently 66 newer mesh concepts are the current interest which have less chronic pain, earlier return to normal activities without compromising on recurrence.³ Light weight mesh is one such concept which meets the above criteria. The present comparative study is a small study and follow up is limited for period of one year.

CONCLUSION

Use of Light weight mesh and standard prolene mesh in Lichtensteins repair of inguinal hernia are both comparable and effective. Light weight mesh with lesser amount of foreign body causes less foreign body reaction and thus less chronic pain, lesser foreign body sensation and earlier return to normal activities where as recurrence is similar in both the groups. Seroma formation, immediate pain, wound infection, hematoma is not affected by the type of mesh used.

Lichtensteins inguinal hernioplasty with light weight mesh is an ideal choice whenever it is feasible.

REFERENCES

1. Benjamin Woods, Leigh Neumayer. Open repair of Inguinal hernia: Evidence based review In Surgical Clinics of North America Volume 88 February 2008. P144-146.
2. Stephen.H.G, Mary.T.H, Kamal.M.F.L Surgical progress in Inguinal and Ventral Incisional Hernia repair. In Surgical Clinics Of North America Volume 88 February 2008. P18.
3. Skandalakis JE, Gray SW, Ricketts R, Skandalakis LT. The Anterior Abdominal Wall. In Skandalakis JE, Gray SW, Editors. Embryology for Surgeons - The Embryological Basis for the treatment of congenital anomalies: Maryland, USA: Williams and Wilkins 1994.p.
4. Quinn TH. Anatomy of the Groin: A view from the Anatomist. Chapter 6. In: Fitzgibbons R, Greenberg G, editors. Nyhus and Condon's Hernia Philadelphia USA: Lippincott Williams and Wilkins, 2002.p.55.
5. Kux M. Anatomy of the Groin: A view from the surgeon. Chapter 5 in Fitzgibbons R, Greenberg G, editors. Nyhus and Condon's Hernia Philadelphia USA: Lippincott Williams and Wilkins, 2002.p.45.
6. Boffard KD. The Groin and Scrotum. In: Decker GAG, du Plessis DJ, Lee McGregor's Synopsis Of Surgical Anatomy, Bristol, Great Britain: John Wright and Sons Limited: 1986. p 118-137.
7. Madden JL, Hakim S, Agrorogianuis AB. The Anatomy and Repair of Inguinal Hernias. Surg Clin N Am 1971; 51(6):1269-1292.
8. Das S. A. A Textbook on Surgical Short Cases. 1st ed. Calcutta : Dr. S. Das: Sept1990. 19.Gupta RL, Textbook of Surgery. 2nd ed. New Delhi: Jaypee Brothers Medical Publishers; 2003