ORIGINAL ARTICLE

Early Experience of Lightweight Mesh Using Lichtenstein Technique in Inguinal Hernioplasty

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ABSTRACT

Objective: To share our experience of mesh hernioplsty with lightweight mesh using Lichenstein technique.
Study design: It is a descriptive study.
Place & duration of study: We conducted this study at Akhtar Saeed Trust Teaching Hospital and Farooq hospital, attached with Akhtar Saeed Medical and Dental College, Lahore for the period of 1 year from September 2011 to September 2012.
Methods: The study included all patients suffering from inguinal hernia in which lightweight mesh used.
Results: Total 50 patients suffering from inguinal hernia were included in this study. Only 10% patients had mild discomfort post operatively. None of the patient had recurrence and infection in six month follow up period.
Conclusion: This study shows Lightweight mesh is a safe and alternative option for inguinal hernioplasty.
Key words: Lightweight, Lichenstein technique, mesh, hernioplasty, inguinal hernia

INTRODUCTION

Lichenstein herioplasty has become the most frequently tension free procedure performed by general surgeons for inguinal hernia. This technique was introduced by Irving Lichenstein in 1984[1]. This technique has got world wide acceptance because it is easy to learn, easy to perform and demonstrates a low rate of recurrence.

The most commonly used material in this technique is polypropylene. Although published results on multifilament polyester mesh demonstrated safe and efficient[2]. There has been concerns regarding post operative pain and discomfort in groin with the use of polypropylene mesh.[3]In order to reduce this complication various material of mesh has been introduced. We used semi-absorbable lightweight mesh (ULTRAPRO) in this study.

METHODS

This was observational study which was conducted from September 2011 to September 2012 at Akhtar Saeed trust teaching hospital / Farooq hospital Lahore. During the study period all the patients who underwent lichenstein hernioplasty with lightweight mesh were included in the study. The inclusion criteria was patients suffering from inguinal hernia with age more than 18 years, having no concomitant infection and patients wishes for lightweight mesh for hernioplasty .The exclusion criteria was age less than 18 years, obstructed and strangulated hernia and patient refusal for lightweight mesh .The case records of all these patients were maintained thoroughly regarding their age, sex, symptoms, clinical findings, side and type of hernia, post operative complications.

The patients suffering from inguinal hernia were scheduled for surgery after explaining all the procedure, likely complication and post operative course. The Lichenstein repair was done by two senior surgeons. The general anesthesia with endotracheal intubation was used in all patients. The patients were followed up in OPD after weekly intervals for two weeks, then on monthly basis up to 6 months. Some patients were followed up on telephone others reported in OPD.Follow up was done for six months. During follow up special emphasis was made on post operative discomfort, infection and pain in the groin. The data was recorded on pre-designed proforma.

RESULTS

All patients who were operated were males (n=50). The patients were classified according to Nyhs classification. The maximum no.of patients (n=35) were type III according to Nyhs classification. The age was 18 to 70 with mean 40 years.Out of all (n=50) thirty patients(n=30) had inguinal hernia on right side and and twenty (n=20)had inguinal hernia on left side. Thirty five(n=35) patients had indirect and fifteen (n= 15) patients had direct ingunal hernia. Thirty (n=30) patients had complete inguinal hernia twenty (n=20) had incomplete variety. Five patients (n=5) had mild pain(VAS>4) at operated site in early post operative period whereas five patients had moderate to severe pain in early post operative

period.In the follow up five patients felt discomfort and pain of mild to moderate intensity which required heavy analgesics.Sermoa formation observed in two(n= 2) patients and five (n=5) patients had scrotal oedema and one(n=1) had scrotal haematoma. Three patients (n=3) had surgical site infection which were treated and resolved in ten days. Early postoperative complications settled on discharge from hospital. None of the patient reported recurrence in this period of study.

Table I: Types of hernia according to nyhs classification

Type of hernia	**=n**	**%**
Type I	Nil	nil
TYPE II	10	20
TYPE III	35	70
TYPE IV	5	10

Table II: Early postop complications (during hospital stay)

Complication	**n=**	**%**
Infection	3	6
Seroma	2	4
Pain		
VAS 7-10	2	4
VAS 5-7	3	6
VAS <5	5	10
Recurrence	NIL	0
Hematoma	1	2
Testicular pain	3	6

Table III : Late postop. complications (after discharge from hospital)

complication	**=n**	**%**
Pain		
VAS 7-10	Nil	
VAS 5-7	2	4
VAS <5	3	6
Recurrence	Nil	Nil
Infection	Nil	Nil
Testicular atrophy	Nil	Nil

DISCUSSION

Repair of inguinal hernia is one of the commonest surgical procedures worldwide, irrespective of country, race or socio economic status and constitutes a major health care drain in every country.It is worth recording that the first mesh plasty in clinical work was reported by Usher in 1958 when he used mesh with elasticized nylon on humans with no prior experimental work.[4]The tension-free onlay mesh repair is invariably linked to Lichtenstein whose work and progress over two decades culminated in the final Lichtenstein repair[5,6].

The use of polypropylene is safe in lechenstein herenioplaasty .However there are reports of chronic pain due to its heavy weight. There are now avaible light weight mesh **.**In this stdy we used lightweight mesh(ultra pro).This mesh is monocryl (polyglecapron) and is absorbed within 90 to 120 days due to hydrolysis, leaving a lightweight mesh with a pore size of 3 to 4 mm.The preliminary results of this study are promising and show the technical advantages. Operating time is reasonably good. This short time necessary for mesh fixation reduced the time of mesh exposure and could reduce sepsis complications.

No peroperative difficulty or complication was reported. The pain at discharge was low and reduced in comparison with preoperative pain described by patients. The lack of tension during mesh positioning and closure of the flap around the cord can reduce the pain generated by tension created on surrounding tissues and more particularly if sutures can be avoided.

At one month, no patient reported neurological pain. The fascia protecting the ilio-inguinal nerve can't be penetrated by the hooks. Chronic pain is perhaps the most serious adverse outcome after inguinal hernia repair, it is reported during daily activities in 16.6% of cases[7]. With this mesh, we expect to improve quality of life of the patients by reducing post-operative pain. The lightweight mesh can contribute to reduce this adverse outcome[8] in case of neurological pain, the resorption of fixating grip in about one year should allows a reduction and disappearance of the pain.

In the study conducted by Bringman S et al[9] concluded that use of lightweight mesh for Lichtenstein hernia repair did not affect recurrence rates, but improved some aspects of pain and discomfort 3 years after surgery.

Agarwal BB et al[10] in their study described that Lightweight mesh is associated with significantly better outcomes in TEP inguinal herniorrhaphy as compared with heavyweight mesh.

CONCLUSION

Light weight mesh is good alternative option that can be effectively used in inguinal hernia repairs.

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