GLUE VS. SUTURE FOR MESH FIXATION IN INGUINAL HERNIAL REPAIR

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ABSTRACT

INTRODUCTION

Inguinal hernias are by far the most common type of hernia. The treatment is of course surgical. Open surgical method and the use of synthetic mesh has been used since the 1950s to reinforce hernia repair. But the most problematic feature that surfaced was the emergence of chronic pain at the repair site. The pain can be differentiated into neuropathic or non-neuropathic cause. Several recent articles demonstrated an unacceptable high rate of chronic inguinal pain, with an average incidence of 12%, but sometimes reported as high as 53%. The main aim of the study is to find out the usefulness of glue over suture in the hernia repairs so as to keep the mesh in position. In our study we found out the glue method was the best in every aspect ie, in all criteria except the recurrence which also is not significant.

KEYWORDS

Glue, Suture, Mesh, Inguinal, Hernial.

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INTRODUCTION: Inguinal hernias are by far the most common type of hernia. It is described as 'rupture' by the patients[1]. Anatomically speaking there are different types of hernias. Direct, Indirect, Sliding to name a few. There are other types of classification as well like, taking causative and complication factors in the picture. But never less they all are anatomically very close and the mode of treatment is essentially the same.

The treatment is of course surgical. Open surgical method and the use of synthetic mesh has been used since the 1950s to reinforce hernia repair, and in the 1980s Lichtenstein described a tension-free, simple, flat, polypropylene mesh repair for inguinal hernia. Over 79,000 operations carried out on the NHS in the United Kingdom during 2010/11.[2]

Lichtenstein hernioplasty, first described in 1989,[3] is a widely accepted technique for open repair of inguinal hernias due to its safety, efficacy, and low recurrence rates.[4]

But the most problematic feature that surfaced was the emergence of chronic pain at the repair site. The pain can be differentiated into neuropathic or non-neuropathic cause. Several recent articles demonstrated an unacceptable high rate of chronic inguinal pain, with an average incidence of 12%, but sometimes reported as high as 53%.[5,6,7]

Neuropathic cause includes those that arise from nerves which get entrapped due to fibrosis and other secondary complications.

The lightweight mesh has been shown to reduce the incidence of chronic pain without increasing hernia recurrence rates.[8]

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Use of atraumatic mesh fixation techniques such as fibrin or butyl-2-cyabiacrylate glues have increased. It has been postulated that glue mesh fixation may decrease the operating time and reduce postoperative pain compared to suture or tacker fixation of mesh.[9]

AIMS AND OBJECTIVES: The main aim of the study is to find out the usefulness of glue over suture in the hernia repairs so as to keep the mesh in position.

The following criteria will be studied to find out the better mode of treatment.

1. Operating time.
2. Post-operative pain.
3. Post-operative complications.
4. Recurrence.
5. Length of hospital stay.
6. Chronic pain.

MATERIALS AND METHODS: Sixty cases of open hernia repair were divided into two groups.

In group one which consisted of thirty people the suture was used to keep the mesh in position and in group two which again consisted of thirty people tissue glue was used to keep the mesh in position. N-butyl-2-cyanoacrylate glue was used in the procedure.

The patients were divided randomly and the study was conducted in K. S. Hegde Medical Academy, Mangalore from June 2011 to June 2015.

RESULTS:

Image 1: Showing the mesh used to repair the hernia and is retained by suture

	Operating Time
Group 1	64.23 minutes
Group 2	59.56 minutes
Table 1: The mean operating time	

	Post-operative pain
Group 1	18
Group 2	11
Table 2: The post-operative pain	

	Post-operative complications
Group 1	2 ulcers
Group 2	Nil
Table 3: Post-operative complications	

	Recurrence
Group 1	Nil
Group 2	1
Table 4: Recurrence	

	(Mean) Hospital stay
Group 1	7 days
Group 2	5.5 days
Table 5: Mean Hospital Stay	

	Chronic Pain
Group 1	16
Group 2	4
Table 6: Chronic Pain	

DISCUSSION: Open mesh repair is a straightforward operation of primary inguinal hernia. It is one of the most frequent operations worldwide. It is also one of the first operations a surgical trainee performs while his/her training. Nevertheless, it is cause of chronic pain, discomfort and reduced quality of life in an unacceptable number of cases. The method of fixation of the mesh is one of the factors that have been blamed for postoperative pain. Sutures, mostly non-absorbable, have been demonstrated to increase postoperative pain by nerve entrapment or injury or chronic foreign body reaction. Different methods of mesh fixation have been studied. Self-gripping meshes have been introduced quite recently and their use is still not diffuse, so currently they can be considered only a possible alternative, should their costs match those of "normal" meshes. The use of tissue adhesives has had the most promising results in terms of clinical efficacy and reduction of postoperative pain.

In our study we found out the glue method was the best in every aspect i.e., in all criteria except the recurrence which also is not significant.

CONCLUSION: The glue mesh fixation compared with sutures is faster and less painful, with comparable hernia recurrence rates.

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