



The Recurrence Rate of Inguinal Hernia Repair, use of Mesh without Fixation.

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Abstract

A hernia is defined as a protrusion of an organ or part of it through the body wall defect that normally contain. The aim of this study is there any deference between fixation and non fixation of mesh in inguinal hernia repair for the rate of recurrence and complications. This study was performed in Baquba teaching hospital in IRAQ, from the period of Ist. Jan. 2015 to 30th June 2016 in a retrospective study and data had collected about 100 cases, all are male above 20 years of age exposed to inguinal hernia operation using prolene mesh with them. [68] case 68% have right inguinal hernia, and [32] case 32% of left inguinal hernia. All were admitted to surgical unit and the operation done either under spinal or general anesthesia. The prolene mesh had only fixed above the spermatic cord by one stitch . Only 4 cases 4% develop recurrence, [2] cases in right side and [2] cases in left side after one and a halve year and the most age group affected is [20-30] years [36]case 36%. There is no deference between fixation non fixation of the mesh in recurrence and complications .Most of cases done under general anesthesia.

Keywords: inguinal hernia, mesh, repair, recurrence rate, anesthesia

Background

A hernia is defined as a protrusion of an organ or part of it through the body wall defect that normally contain [1]. Inguinal and femoral hernia known as groin hernia 4% in people above 45 years and 96% inguinal hernia and 4% femoral hernia which is more common in female[2]. The inguinal canal is 3-4 cm in length between external and internal rings. It is either direct or indirect and it is about 75% of the total abdominal hernias and either congenital or acquired. The hernia is surrounded posteriorly by transversalisfascia, anteriorly by external oblique apponeurosis, laterally by inguinal ligament, and medially by conjoint ligament [3]. The risk factors for development of inguinal hernia is increase the abdominal pressure, cough, constipation, smoking, family history [2]. Obesity may act as a protective

measure for developing inguinal hernia[4]. It is the most common operation done in surgery [1]. The procedure can be done either by open or laparoscopic methods and using synthetic mesh to reinforce the defect [3]. The laparoscopic method is mainly used for bilateral inguinal hernia and for recurrent inguinal hernia. Mesh when used is traditionally fixed, which may reduce its displacement and then decrease the hernia recurrence [4]. The fixation is essential but may increase post operative pain whether acute or chronic [5]. Several studies have shown that no increase in rate of recurrence in patients under went hernia repair without fixation of the mesh[6]. This agree with our radiological finding for inguinal hernia repair which shows that there is minimal mesh displacement after repair with fixation of the mesh [7]. Other studies

found that the wide dissection in the area lead to high rate of mesh displacement and the displacement is confirmed radiologically after 30 days by[0.1-0.4cm]8. There is no deference in recurrent rate and or other complications between repair with mesh fixation and repair without mesh fixation[9]. The use of fixation might lead to chronic post operative pain due to stitches its self and shrinkage of the mesh with time . The rate of recurrence is same and low in repair with mesh whether it is fixed or not[10] .

Aim of the study

Is there any deference between fixation and non fixation of mesh in inguinal hernia repair for the rate of recurrence and complications.

Patient and Methods

This study performed in Baquba teaching hospital from the period of 1st Jan 2015 to 31th June 2016 and

data collected about 100 case in special designed questionnaires. All admitted to surgical unit and operation done for them as inguinal hernia repair by mesh. All patients are male and above 20 years .the study done in a retrospective way include age, side of operation, the rate of the recurrence , and the type of anesthesia used . The study explained by number, percent and comparison the results with other studies.

Results

This study had collect data about 100 cases .All are male above 20 years. The most age group affected is [20-30] years [36] 36% . The next age group affected is [31-40] years [20] cases 20%, and the least age group affected is more than [71]years [3] cases 3% . As shown in Table 1.

Table 1; Distribution of the cases according the age group.

Age group year	No	%
20-30	36	36
31-40	20	20
41-50	18	18
51-60	16	16
61-70	7	7
>71	3	3
Total	100	100%

According the side affected more in this study we found that the right side is [68] cases 68% and most of cases [27] case 27% in age group [20-30] years. The

left side is affect [32] case 32% and the most age group affected is [41-50] years [10] cases 10% . As shown in table 2.

Table 2; Distribution of cases according to the side of operation.

Side of operation	No.	%
Right Inguinal hernia	68	68
Left inguinal hernia	32	32
Total	100	100

When we follow the patients for more than one and a halve year we found that [4] cases develop recurrent of

the hernia after the operation [2] cases in right side and [2] cases in left side .As shown in table 3.

Table 3; Distribution of the recurrent cases according the sides of the operation.

Side of operation	No	%
Right Inguinal hernia	2	2
Left inguinal hernia	2	2
Total	4	4

The type of anesthesia used for inguinal hernia operation is [80] case 80% done under general anesthesia .[15] case 15% of operations done under

spinal anesthesia , while[5] cases 5% done under local anesthesia. As shown in table 4.

Table 4; distribution of cases according to the type of anesthesia.

Type of anesthesia	No	%
General anesthesia	80	80
Spinal anesthesia	15	15
Local anesthesia	5	5
Total	100	100

Discussion

According to the data collected about 100 case suffering from inguinal hernia. They were under went hernia repair by using synthetic mesh. All of the patients are male above 20years of age. We found that the most age group affected [20-30] years [36] case 36%. The next age group affected is [31-40] years [20] cases 20% and the least age group affected is above [71] years [3] cases 3%. We choose patients above 20 years of age because in this age we use synthetic mesh. Other studies like John T. Jenkins 2008[11] found that the male affected by inguinal hernia is 95%. Natalie Dabbas 2011[12] mentioned that the mean age of inguinal hernia is 55.6 years. Rev .Col 2013[13] found that the most age group affected is [61-70] years , all are male . Poobalan AS.2003 [14] said that male affected is more than 91% and the most age group affected is [50-70] years. Constance E. Ruhl 2007 [15] mentioned that the most age group affected is [60-74] years 22.8%. The next age group affected is [40-59] years 14.8% , then followed by age group [24-39] years 7.3% . There is differences in age group between this study and other studies. In this study the most age group affected is [20-30] years 36%, because they are young and active and they can stand the anesthesia and operation easily so they attend to do the operation, while the age group above [60] years they are hesitated in doing the operation because they are a fried from anesthesia and operation, so they tend to use truss. For the common side of inguinal hernia in this study the right side inguinal hernia is more common [68] case 68%, and the left side inguinal hernia is [32] case 32%, and as we know that the right inguinal hernia is more common than the left side[text book of short practice of surgery in all editions said the right side inguinal hernia is 50%, the left inguinal hernia is 30% and bilateral inguinal hernia is 20%].

Other studies like Natalie Dabbas 2011[12] found that the right side inguinal hernia is 63.4%. the left inguinal hernia is 32.3%, and the bilateral inguinal hernia is 4.3% .

For the recurrence rate in this study it was found in [4] cases 4% [2]2% cases in right side 2% and 2 cases 2% in left side after we follow the patients for more than one and a halve year. One of the cases is smoker with chronic cough, might be the cause. Another one is obese and return early to his job without respect of the advices . Other 2 cases the cause for the recurrence is unknown . In this study we use prolene mesh flat in the floor of the inguinal canal fixed only by one stitch above the cord and the other parts left free . The recurrence rate is 4% which is in the international percent of recurrence rate. Other studies like Gilbert AI. 1989[16] mentioned that suturelessherneoplasty by using prolene mesh is chiefly used for indirect inguinal hernia repair. The repair done without fixation of the synthetic mesh and gives excellent result. Rutkow IM. 1993[17] use Gilbert technique for all types of inguinal hernia[direct and indirect. Also used prolene mesh flat over the floor of the inguinal canal without fixation and gives same result in recurrence rate about 2% and less post operative pain in cases of using fixation of the prolenemesh.

H. pokorny 2008[18] found that there is no significant differences in recurrence rate between fixation and non fixation of prolene mesh in the end result. He mentioned that the recurrence rate in bassini is 3.4%, in lichtenstiens technique is 1%, in laparoscopic [TAPP]is 4.7% and in [TEP] is 5.9% .John T. 2008[11] found that the recurrence rate after using prolene mesh without fixation 0.43% laparoscopically .

Natalie Dabbas 2011[12] mentioned that the rate of recurrence in inguinal hernia repair by using mesh is 8.3% without fixation of the mesh. Sri Ven 2013[19] found that the recurrence rate in stoppa repair is 7%, in tension free repair 1.7% and plug repair is 1.6% .

The result of This study and other studies is no difference whether prolene mesh is fixed or not in post operative complications . For the type of anesthesia used in inguinal hernia repair in this study 80 cases 80% the operation done under general anesthesia because most of the cases are at the age [20-40]years 56 cases 56% . The other are exposed to spinal anesthesia 15 case 15% their age is more than 55 years . 5 cases 5% the operation done under local anesthesia, because their age is above 71 years . As we mention above the most of cases the procedure done under general anesthesia at age[20-40]years, because this group can stand the general anesthesia very well, they are active and productive age , while those above 55years they are hesitated in doing the operation and sometimes not fit for general anesthesia, so they tend to do it under spinal or local anesthesia. Other studies like john T. 2008[11] found that the general anesthesia is used in 64% of cases then spinal and local anesthesia done in 18% for each respectively . P Sanjay 2007 [20] because he has interesting in local anesthesia so he did the operation in 64% under local anesthesia and 36% of the cases the operation done under general anesthesia.

Conclusion

In this study all the patients are male above [20] years. The general anesthesia is mostly used, and the used of synthetic mesh without fixation just flat it over the floor of the inguinal canal and the end result [recurrence rate and other complications] appear to the same result if the mesh is fixed .

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