

Quality of Life in Case of Anterior Abdominal Wall Hernia Repair. Fill Your Information Like Red



Medical Science

KEYWORDS :

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ABSTRACT

Background : Hernia derived from Latin word, is a protrusion of a viscus or part of a viscus through an abnormal opening in the wall of its containing cavity. It is one of the most common operation being performed by general surgeons around the globe. Despite the frequency of this procedure, no surgeon has ideal result, complications, infection and recurrence continue to challenge surgeons. The objective of this study was therefore to assess the health related quality of life (HrQoL) and the long term outcome of patients. Methodology: Quality of life assessment pre and post-surgery at 6 months was done in the cases (prospective) of anterior abdominal wall hernias by using SF-36 form (1992 Medical Outcomes Trust). The SF-36 was given as an interview based format. Each question is answered either yes/no or on a scale with three to six dimensions. Responses are designed to reflect the person's status during the previous 4 weeks. Questions were combined to form composite scores. These scores range from 0-100. Statistical tests were applied for significance. Result: Significant difference was noted at 6 months in RE (Z=5.73), RP (Z=5.39), PF (Z=5.03) and BP (Z=4.85) with $p < 0.0001$ which was statistically significant. The 'rail Quality of Life scores were 42.66 (preoperatively) and 68.94 (at 6 months) with $t=5.25$ and $p < 0.0001$ which was also statistically significant. Conclusion: Quality of life does improve after hernia repair. The comorbidities (cancer, heart disease, diabetes, back pain) might have influence on the quality of life. Some of those diseases or their treatments (diabetes, COPD, corticosteroid/chemotherapy) are known to be risk factors for hernia formation. On the other hand patients with chronic disease tend to downscale their expectations for life and feel satisfied as long as they can stabilize their condition and be free from complication and aggravation.

Introduction:

Hernia derived from Latin word, is a protrusion of a viscus or part of a viscus through an abnormal opening in the wall of its containing cavity. A hernia can be present at birth. hernias usually present as a bulge or lump that disappears when the patient lies down. They can be primary or recurrent; they may be reducible or irreducible. Irreducible hernias may be either incarcerated or they may be strangulated. 1 The external abdominal hernia is the most common for. (1) The earliest report of abdominal wall hernias date back to 1500 BC. It is one of the most common operation being performed by general surgeons around the globe. Despite the frequency of this procedure, no surgeon has ideal result, complications, infection and recurrence continue to challenge surgeons.

Abdominal wall hernias occur only at sites where aponeurosis and fascia are not covered by striated muscles i.e. inguinal, femoral, umbilical area, linea alba, lower portion of semilunar line, and sites of prior incisions. Umbilical hernias are congenital in origin and occur when the umbilical scar closes incompletely in the child or fails and stretches in later years in adult patient. Incidence in babies being 10-30%, most umbilical hernias that appear before the age of 6 months disappear spontaneously by 1 year of age. In adults the cause is usually acquired rather than congenital and female to male ratio being 3:1. 2

Epigastric and hypogastric hernias occur in the linea above and below the umbilicus resp. First described by Leville in 1812. They are an acquired defect and are often multiple in nature. Overall incidence being 3.5 % and is more common

in males by a ratio of 3:1 and is commonly diagnosed in middle age.

Paraumbilical hernias are five times more frequent in females than males and usually occur through the linea alba either above or below the umbilicus and not through the umbilical scar. These hernias usually sag downwards because of their size. Incisional hernia occurs as a result of failure of facial tissues to heal and close following laparotomy, mostly encountered with midline vertical and transverse incision, incidence of incisional hernia being 2-11 %. 3

In developing countries such hernias are not treated on priority basis because of their benign nature in general and due to economical reasons. Among the common ventral hernias are the incisional and para-umbilical hernias constituting about 85% of the overall ventral abdominal hernias. 4

The extent of the scar tissue induced by the mesh depends on the amount and structure of the incorporated material and is responsible for the abdominal wall compliance 1,2 . In 20% of the cases heavy weight (HW) and small pore size PP meshes caused a reduction of the abdominal wall mobility ("stiff abdomen"). This complication was associated with chronic abdominal pain. As a consequence macropore light weight (LW) PP meshes strong enough to resist maximal physiologic stress of the abdominal wall were developed . This development resulted in a reduction of the chronic pain . Whether macropore LW-PP meshes have also a beneficial effect on the life quality of patients in the long term outcome after open incisional hernia repair is still un-

clear. The objective of this study was therefore to assess the health related quality of life (HrQoL) and the long term outcome of patients. 5 The study was conducted to assess quality of life post-surgery and different types of complications pre and post-surgery.

Methodology:

The incidence, age and sex wise distribution was determined by registering all the patients in the study. All the patients were evaluated as per proforma to rule out etiological factors associated with the disease.

Different surgical procedures performed for different kind of hernia repair are evaluated on the basis of used of synthetic mesh or anatomical repair with sutures. Usage of drains was also taken into account. Prolene mesh was used in all the patients who underwent meshplasty and anatomical repair was done using Prolene no 1 non absorbable suture. Size of hernia defect was graded according to EHS (European Hernia Society) classification. 6,7

Patients were graded as obese according to WHO guidelines where BMI>30kg/m² was considered as obese.⁸ All the patients in the post-operative period were administered Inj Cefotaxime 1gmIV 8th hourly for five days.

Assessment of complications preoperatively such as strangulation and obstruction was done and postoperative complications such as surgical site infection, wound dehiscence, mesh rejection and recurrence of hernia were taken into account. Quality of life assessment pre and post-surgery at 6 months was done in the cases (prospective) of anterior abdominal wall hernias by using SF-36 form (1992 Medical Outcomes Trust). The SF-36 was given as an interview based format. Each question is answered either yes/no or on a scale with three to six dimensions. Responses are designed to reflect the person's status during the previous 4 weeks. Questions were combined to form composite scores. These scores range from 0-100. Statistical tests were applied for significance. Data for retrospective study was obtained from medical records department and was tabulated in the proforma, patients were called for follow up and evaluated for recurrence of hernia. Paired t test with Z. test of proportion, chi square test and Wilcoxon test were used for statistical analysis.

Results :

Table 1 : Area wise comparison of pre and at 6 months quality of life in study group

Area	Pre test QOL		Post test QOL		Wilcoxon Z Value	P Value
	Mean	SD	Mean	SD		
Physical functioning	49.28	21.73	72.69	23.49	5.03	<0.0001
Role limitation due to physical health	12.3	28.18	78.5	40.40	5.39	<0.0001
Role limitation due to emotional problem	42.84	41.37	79.81	38.04	5.73	<0.0001
Energy/vitality	46.17	15.56	60.63	15.56	4.16	<0.0001

Mental health/emotional well being	61.23	18.65	67.54	19.49	2.62	<0.01
Social functioning	48.25	18.04	62.56	19.13	3.69	<0.0001
Body pain	50.39	16.75	73.8	13.42	4.85	<0.0001
General health	41.56	10.73	54.35	15.82	3.88	<0.0001
Total	42.66	12.92	68.94	19.73	5.25	<0.0001

Table 2 : Comparison of pre and post quality of life according to defect size in incisional hernia study group

Incisional size	Pre test QOL		Post test QOL		Wilcoxon Z Value	p Value
	Mean	SD	Mean	SD		
<4	45.64	16.55	69.02	23.77	1.68	>0.05
4,10	39.43	11.49	66.65	21.14	3.03	<0.005

Discussion:

Ventral hernias are a familiar surgical problem. Millions of patients are affected year, in incidence it is second only to inguinal hernias, accounting for 25-35 % of all hernias. Ventral hernias include Incisional and primary defects in the abdominal fascial, which can cause umbilical, epigastric hernias.⁹ In adults. Incisional hernias account for 80% or more of ventral hernias that surgeons repair. The prevalence of Incisional hernias after Laparotomy is 2% to 11 % and increases substantially when certain risk factors for postoperative Incisional hernia, such as a infection or obesity, are present.

Whether symptomatic or asymptomatic, hernias commonly cause pain or are aesthetically distressing to patients. These concerns, coupled with the risk of ration, are the most common reasons patients seek surgical repair of hernias. As the time period for follow up is limited this study will not reflect the true incidence of ventral hernias in DYPMCH.

In our study group A had 39.81% Incisional hernia, 33.33% umbilical hernias, 15.74% Paraumbilical and 11.11% Epigastric hernia whereas group B had 42.39%, 30.43%, 18.48% and 8.70% hernias respectively whereas Babar sultan et al.¹⁰ found maximum numbers of paraumbilical hernias followed by umbilical and incisional hernias also was male (92.83%) dominance over females (7.62%) which corresponds to our study.

Diabetes mellitus, obesity, alcoholism, smoking have been associated with high percentage of post operative hernias (Jack Abrahamson) ¹¹. In our study leading predisposing factors were obesity (p value <0.003), smoking (p value <0.001), diabetes P value>0.05), alcohol (p value <0.0001) followed by cough and constipation which corresponds to the literature. In study by Rios A et al. (2001) said that 19.9% were diabetic, 9.3% were obese and 3.7% were immune suppressed. In our study group B, meshplasty was the procedure of choice for small and medium sized hernias. We compared the incidence of SSI according to placement of suction drains in group A, and found that in both anatomical repair and meshplasty group incidence of SSI was more in patients where drain was not kept with a Z value of 4.72 and 9.54 respectively and p value of <0.0001, which was statically significant.

In group B also incidence of SSI was more in non drain group with a Z value of 9.77 and p value being <0.0001, which was statistically significant. So in patients whom drain was kept had a significantly lower rate of surgical site infection (p value < 0.0001) as compared to non drain group and it was statistically significant and the results were comparable to study Arshad M Malik et al. 12

Non-mesh repair with non-absorbable sutures has been the method of choice for umbilical hernia repair (Abrahamson 1997) 13. Recently, Arroyo et al. 200114 published a randomized clinical trial comparing non-mesh and mesh repair for umbilical hernias in adults with recurrence rates of 11 versus 1 per cent respectively. The mean follow-up was 64 months. The authors state that umbilical hernias should be treated with a mesh repair, regardless of the size of the hernia. In our study most of the umbilical hernias were repaired using sutures.

Non-mesh repair is still advised for epiastric hernia treatment, but recent randomized trials comparing different treatment modalities lack. Probably it is wise to consider mesh repair, especially in larger defects (Abrahamson) 15 In our study 35% of the kilts were treated by mchsplasty. R.A. Brown et al .16 stated irreducibility as the main complication of umbilical hernia, withit strangulation occurring less frequently, which is comparable to our study where 6.25% of the patients had presented with irreducibility.

Dan H. Shell IV 17 inferred that incisional hernias has recurrence rates ranging from 5% to 63% depending on the type of repair used, and also that 50% of hernia r e c u r r e n c e s are detected in the first postoperative year, 75% are detected at 2 years, and 90% are detected at 3 years, with continued failure rates of 2% per year thereafter. In our study we noticed a recurrence of 6.09% which was comparable to above mentioned study. Patients who had recurrence had fulminant infection which led to removal of the mesh and eventually recurrence. True recurrence and failure rates could not be evaluated as UK follow up period was limited.

Quality of life estimation was done preoperatively and after 6 months, 50 patients had completed the follow up. It was measured under eight parameters namely physical functioning (PF), role limitation due to physical health (RP), role limitation due to emotional problem (RE), energy/vitality (V), mental health/ emotional well-being , social functioning (SF), body pain (BP) and general health (OH). Mean scores were calculated with standard deviation and Wilcoxon test was applied to the values. Significant difference was noted at 6 months in RE (Z=5.73), RP (Z=5.39), PF (Z=5.03) and BP (Z=4.85) with $p < 0.0001$ which was statistically significant. The 'rail Quality of Life scores were 42.66 (preoperatively) and 68.94 (at 6 months) with $1=5.25$ and $p < 0.0001$ which was also statistically significant.

Further evaluation was done in cases of incisional hernia and it was found that Quality of Life improved more in patients with medium sized defect (4-10 cm), Z value for small and medium group being 1.68 and 3.03 and mean scores being 45.64 (pre), 69.02 (ath) and 39.43 (pre), 66.65 (6 mth) respectively with a p value of < 0.005 , which was statistically significant. These results were comparable to a study by D.D Har-toget al 18. Post surgery quality of life does have significant improvement. However More studies are required to evaluate quality of life in ventral hernias, so that disease specific questionnaire could be made for further evaluation.

More generally the HrQoL of patients undergoing incisional hernia repair (no matter if with low or heavy weight mesh) is worse than that of the healthy population in the same age. There are several possible explanations for this. 19 The comorbidities (cancer, heart disease, diabetes, back pain) might have influence on the quality of life. Some of those diseases or their treatments (diabetes, COPD, corticosteroid-/chemotherapy) are known to be risk factors for hernia formation. On the other hand patients with chronic disease tend to downscale their expectations for life and

feel satisfied as long as they can stabilize their condition and be free from complication and aggravation.

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