

Quality of Life among Patients Underwent Repair for Uncomplicated Ventral Hernia

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Abstract

Introduction: Ventral Hernias are second most common type of hernias accounting for 21 to 35% of all varieties of hernias. The main danger of all forms of hernia is strangulation and hence need surgical intervention. Repair of ventral hernias can be technically challenging and a myriad of methods have been described. The most important distinctions in describing surgical management of ventral hernias are primary vs mesh repair and open vs laparoscopic repair. Mesh repair became the gold standard in elective management of most ventral hernias.

Methodology: The cases are studied as per proforma attached and master chart is made for the cases studied to make the report brief. All cases were clinically diagnosed and all patients included in the study underwent surgery following preoperative investigation in the form of Hb%, BT, CT, FBS, PPBS, Blood urea, serum creatinine, urine for albumin, sugar and microscopy, ECG, chest X-ray. No other special investigations were required for any of the patients except patients who underwent ultrasound examination of the abdomen for ascites.

Results: At the 2nd month of follow-up, there was not much difference in quality of life between the two groups. Significant difference was found in vitality (57.45 vs 54.78, $p=0.07$), and mental health (50.21 vs 47.37, $p=0.06$).

Conclusion: Overall quality of life at the end of 1st month follow-up was good in laparoscopic group.

Keywords: Ventral Hernia; Quality of Life; Management.

Introduction

Hernias are among one of the oldest surgical challenges which have confronted the surgical community. The Egyptians (1500 B.C), the Phoenicians (900 B.C), and the ancient Greeks (Hippocrates 400 B.C) diagnosed hernia during their times [3]. The word Hernia is derived from the Greek word hernias which means a bud or an offshoot, a budding or a bulge. Hernia also means tear in Latin literature [1]

The earliest recorded reference to hernias appears in the Egyptian papyrus of Ebers (circa 1552 B.C) but the formal description of umbilical hernia comes from Hindu Physician, Charaka in his writings dated 1 A. D., or earlier. This contains observations on hernias that is "when you judge a swelling on the surface of a belly ... what comes out ... caused by coughing" [2].

Celsus (AD 40) an ardent follower of Hippocrates, also known as Latin Hippocrates documented Roman surgical practice, taxis, which was employed for strangulation. The trusses and bandages were used to control reducible hernias and operative interventions were undertaken for only pain.

The intraperitoneal pressure is hydrostatic and in human beings averages about 8 cms of water, both in the upper and the lower abdomen. Breathing causes a fluctuation of 2-4 cm of water. In the erect position, the upper abdominal pressure increases to 20 cms of water. Coughing, urinating and straining at stools

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increases the intraperitoneal pressure to levels as high as 150 cms of water. The intraperitoneal pressure rises in a variety of other clinical conditions e.g. intestinal obstruction.

Increased intraabdominal pressure has long been considered as an important factor in the etiology of hernias of all types. Lifting heavy weight is a well-known cause of hernia of the anterior abdominal wall and immediate cause seems to be the rise in intraabdominal pressure. Davis (1959) and Betelink (1956) have measured the changes in the intraabdominal pressure during weight lifting and found very little change in pressure when upright, but a considerable increase in stooping. The experiments show that the flexing force exerted by a given weight upon the trunk, increased from the upright to the prone position and the finding that there is a parallel increase in the pressure in the trunk strongly suggests that this hypothesis is in fact correct. More commonly, the cause of a hernia may be combination of predisposing factors. These include the pressure of a congenital sac, increased intrabdominal pressure, muscle relaxation and rarely trauma. An experiment was carried out in a group of hernia patients by Harry G. Light and Rontledge (1965) on intraabdominal pressure changes. Their experiment supports the opinion that the defect is a congenital or acquired weakness of the abdominal wall and that straining is not the primary cause. However, the significantly increased intrabdominal pressure would certainly lead to enlargement of a defect and cause clinical manifestations. Since physiological pressure changes produce the greatest pressure, the significance of the age- old concept of straining at work probably plays a smaller part in the development of hernia, than previously appreciated.

Hypothesis was given by Mayo [3,4]. He considered paraumbilical hernias to be caused by downward traction on the abdominal wall bearing on a fixed point at the umbilicus associated with an increase of the vertical and to a lesser extent, the lateral dimension of the abdominal wall.

Ventral Hernias are second most common type of hernias accounting for 21 to 35% of all varieties of hernias. The main danger of all forms of hernia is strangulation and hence need surgical intervention. Repair of ventral hernias can be technically challenging and a myriad of methods have been described. The most important distinctions in describing surgical management of ventral hernias are primary vs mesh repair and open vs laparoscopic repair. Mesh repair became the gold standard in elective management of most ventral hernias.

In the recent era of Minimal invasive surgeries, laparoscopic ventral hernia repair is being favored by patients as well as the surgeons when compared to open repair. There is need to evaluate and compare quality of life and pain scoring postoperatively between open repair and laparoscopic repair of ventral hernias.

Methodology

The study was undertaken on cases admitted in General Surgery department and Non probability purposive random sampling was done for selecting the patients.

Patients with age between 18 years and 60 years were included in the study. Patients with severe comorbid conditions (severe cardiopulmonary disease, uncontrolled ascites), with pre-existing skin infection at surgical site, with multiple post-op scars, and patients undergoing emergency surgery were excluded from the study.

The cases are studied as per proforma attached and master chart is made for the cases studied to make the report brief. All cases were clinically diagnosed and all patients included in the study underwent surgery following preoperative investigation in the form of Hb%, BT, CT, FBS, PPBS, Blood urea, serum creatinine, urine for albumin, sugar and microscopy, ECG, chest X-ray. No other special investigations were required for any of the patients except patients who underwent ultrasound examination of the abdomen for ascites.

All patients underwent surgical procedure after following preoperative preparation.

- Informed written consent was obtained after explaining the surgical procedure and its results.
- Nil by mouth after 10:00 pm on the previous night of surgery.
- IM Injection tetanus toxoid 0.5ml
- Injection xylocaine test dose.
- Preparation of the parts by shaving

All patients received one dose of preoperative antibiotic, 1gm of 3rd generation cephalosporins during immediately after induction of anaesthesia. Patients were operated either under spinal anaesthesia or general anaesthesia. On operative table betadine scrub given to anterior abdominal wall.

Patients underwent polypropylene mesh repair either Inlay repair or Onlay repair by open method.

Laparoscopically mesh (dual layer mesh) was placed intra-peritoneal after reduction of hernia.

Results

Quality of life of patient was assessed using SF-8 scoring card given to the patient at the 1st month. The quality of life was assessed with 8 parameters. Post-operatively there was significant improvement in the quality of life using SF-8 scoring system in laparoscopic group compared with the open group, in general health (47.78 vs 31.41, p=0.011), in physical functioning (37.85 vs 33.22, p=0.02), in

economic impact (39.82 vs 32.72, p=0.014), with respect to bodily pain (45.94 vs 41.56, p=0.001), vitality of the patient (50.19 vs 44.8, p=0.002), social functioning (45.01 vs 40.22, p=0.017), emotional role of the patient (37.92 vs 36.12, p=0.036) and mental health of the patient (42.02 vs 38.92, p=0.002).

At the 2nd month of follow-up, there was not much difference in quality of life between the two groups. Significant difference was found in vitality (57.45 vs 54.78, p=0.07), and mental health (50.21 vs 47.37, p=0.06). There was no statistically significant difference between the two groups with respect to general health (p=0.051), physical functioning (45.31 vs 43.84, p=0.055), economic impact (46.58 vs 43.21,

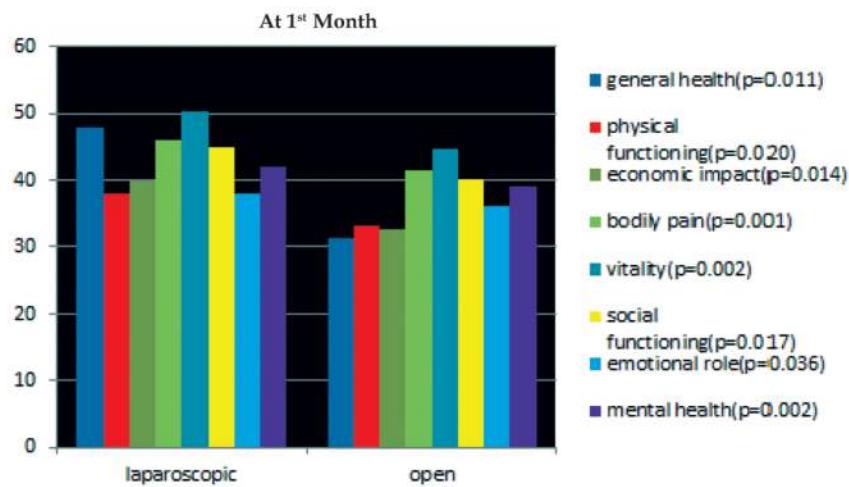


Chart 1: Quality of Life at 1st month

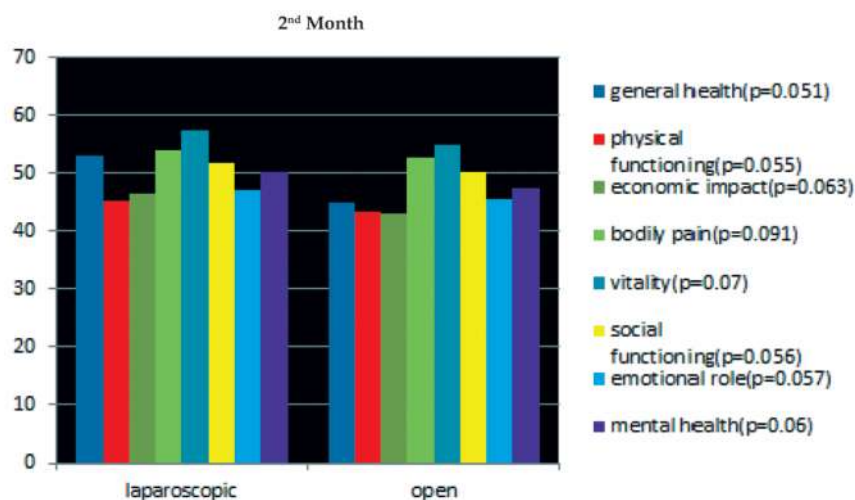


Chart 2: Quality of life at 2nd month

p=0.063), bodily pain (54.05 vs 52.58), social functioning (51.69 vs 50.11, p=0.056) and emotional role (47.09 vs 45.61, p=0.057).

Discussion

Quality of life of patient was assessed using SF-8 scoring card given to the patient at the 1st month. The

quality of life was assessed with 8 parameters. Post-operatively there was significant improvement in the quality of life measured using SF-8 scoring system in laparoscopic group compared with the open group, in general health (47.78 vs 31.41, $p=0.011$), in physical functioning of the patient (37.85 vs 33.22, $p=0.02$), in economic impact (39.82 vs 32.72, $p=0.014$), with respect to bodily pain (45.94 vs 41.56, $p=0.001$), vitality of the patient (50.19 vs 44.8, $p=0.002$), social functioning (45.01 vs 40.22, $p=0.017$), emotional role of the patient (37.92 vs 36.12, $p=0.036$) and mental health of the patient (42.02 vs 38.92, $p=0.002$).

Hope et al study also showed that patients undergoing laparoscopic repair of ventral hernia had improved quality of life compared to open repair with respect to general health (46% vs. 37%; $P=0.0217$), vitality (53% vs. 45%; $P=0.0491$), role-emotional (45% vs. 35%; $P=0.0480$), and mental health (49% vs. 39%; $P=0.0381$) [5]. Mussack et al study showed that SF-36 appears to be an appropriate instrument to measure post-operative quality of life [6].

At the 2nd month of follow-up, there was not much difference in quality of life between the two groups. Significant difference was found in vitality (57.45 vs 54.78, $p=0.07$), and mental health (50.21 vs 47.37, $p=0.06$).

There was no statistically significant difference between the two groups with respect to general health ($p=0.051$), physical functioning (45.31 vs 43.84, $p=0.055$), economic impact (46.58 vs 43.21, $p=0.063$), bodily pain (54.05 vs 52.58), social functioning (51.69

vs 50.11, $p=0.056$) and emotional role (47.09 vs 45.61, $p=0.057$).

Conclusion

Quality of life at 2nd month follow-up showed not much difference between two groups except for vitality and mental health which showed statistically significant difference between them.

References

1. Read RC. The Development of Surgical herniography; Surgical clinics of North America 1984; 64:185-196.
2. Jennings WK, Anson BJ, Wright RR. A new method of repair for indirect Inguinal Hernia Considered in reference to parietal anatomy. Surgery. Gynecology Obstetrics 1942; 74:697.
3. Mayo WJ. An operation for the radical use of umbilical hernia, Ann Surg 1901; 34:276-280
4. Asker OM. Aponeurotic hernias. Recent observations upon paraumbilical and epigastric hernias, SurgClin North Am 1984; 64(2):315-333.
5. Hope WW. Comparing Quality-of-Life outcomes in symptomatic patients undergoing Laparoscopic or Open ventral hernia repair. J LaproendoscAdvSurg Tech A 2008 Aug 1; 18(4):567-571.
6. Mussack T, Ladurner R et al. "Health-related quality-of-life changes after laparoscopic and open incisional hernia repair: a matched pair analysis"; SurgEndosc. 2006 Mar; 20(3):410-3.