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Research Article

Drain Vs Pressure Dressing in Mesh Repair for Paraumblical Hernia

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Abstract

Background: *The long standing history of para umbilical hernia repair from the recognition uptil now to its current management has significant contribution from different authors. Advancement in surgery has leads to more cases of para umbilical hernia and has required the need of new techniques and materials for para umbilical hernia*

Objective: *To compare between drain vs pressure dressing in patient having mesh repair for paraumblical hernia*

Patients and methods: *We have done a prospective study included a total of 26 patients with a followup on 1st, 2nd, 3rd & 12th post op day who were all complaining of an uncomplicated para umbilical hernia and all are treated with the onlay mesh technique. Also post op pain score was recorded as (0-3 mild, 4-6 moderate, 7-10 severe). Moreover post op discharge days were also recorded to analyse the number of days spent in patient in each category. 13 patients with suction drain placement and 13 patients with pressure dressing attending at surgical A unit Hayatabad Medical Complex Peshawar.*

Results: *We have analysed that it can be observed that in terms of pain score, there is no difference between drain or pressure dressing. However in terms of post op complications, it is seen clearly that patients who had pressure dressing applied developed no complications. Post para umbilical hernia repair vs those who had drain put in post op. moreover patients with pressure dressings also had fewer days spent as inpatient vs those who had drain placed.*

Conclusion: *Mesh repair remains the standard procedure for paraumblical hernias and use of drain among patients having mesh repair for para umbilical hernia resulted in post op complications and also more stay in hospital while those having pressure dressing had no complications and less duration of in-patient hospital stay. We suggest more trials on use of drain and pressure dressing in patients having paraumblical hernia repair with the inclusion of a larger number of cases and a longer period of followup.*

Key words: *Paraumbilical hernia, Pressure dressing, onlay mesh technique.*

Introduction

Para umbilical hernia (PUH) is one of the most widely recognized careful issues with ascend in the fix rate every year.[1,2] Already PUHs were fixed by pressure free suture system. Because of a high unsuitable repeat rate this methodology lost fame. [3] Genuine change in perspective on PUH repair accompanied the presentation of mesh plasty.[4] Para umbilical hernia is a midline hernia occurring through linea alba adjoining superiorly or inferiorly on the umbilicus. These hernias are one of the common hernias of adulthood. They got the capability of creating from basic growing to obstruction, strangulation. In the event that the strangulation endures the tissue can get gangrenous because of absence of blood supply. This can cause severe vomiting and vomiting which can prompt a hazardous circumstance requiring emergency surgery. Dealing with these hernias stay one of the normal careful issues. In the event that the imperfection is little it tends to be fixed precisely without undue strain and repeat rate is low. Be that as it may, huge ones with wide opening are hard to oversee by anatomical fix which whenever done will bring about early repeat of these hernias because of undue strain bringing about tissue necrosis. Such hernias ought to be treated with prosthetic mesh repair.[5]

The general agreement with respect to the advancement of a para umbilical hernia is the debilitating of the texture of the midline aponeurotic zone by delayed stretch (consistent as ascites or transitory as rehashed pregnancy). The turn key occasion for herniation is tearing the average connection of the third tendinous crossing point to the midline aponeurotic zone.[6] Redundant worry as a factor in hernia development is proposed by clinical introductions. Expanded intra abdominal pressure is found in an assortment of infection states and appears to add to hernia arrangement in these populations. Raised intra abdominal pressure is related with chronic cough, ascites, peritoneal dialysis or ventriculoperitoneal shunts, intra peritoneal masses or organomegaly and constipation[7].

The shape of the abdomen is needy upon a bulk, muscle tone, obesity, intraabdominal pathology, parity and posture. These variables altogether adjust geology and become a significant obstacle to a legitimate entry point determination and placement.[8] Incision and closure of the abdominal wall are among most every now and again performed surgeries, the abdominal wall are characterized cranially by the xiphoid process of the sternum and the coastal margins and caudally by the iliac and pubic bones of the pelvis. It stretches out to the lumbar spines which joins the thorax and pelvis and is a point of structure[9]. During the most recent couple of decades the open methodology has been standard system for hernia repair. First it was finished by sutures alone which has several complications, for example. Putting over the top strain on the encompassing tissues and furthermore has high repeat rate. So as to give better outcome and to dminiish these complications, an elective system was created in which there is a place of synthetic mesh of screen material is applied.[10]

Tension free hernioplasty (mesh repair) remains to be the methodology of decision for the treatment of paraumbilical hernia[11]. Drain brought out through the operated wound are major cause of developing postoperative hernia.[12] since the tissue planes along the path of the drain are not suture. An open and weak passage is present throughout the layers of the wound through which a hernia can rise. Furthermore after the first few postoperative hours, there is a rapid rise in the wound infection rate, since the drain allows for two way passage of secretions one is outwards and other is organisms getting inward to the wound and abdominal cavity. Also the drain placed causes irritation which leads to edema, softening, tearing of the tissues and cutting out of sutures.[13]

The aim of this study was to compare between the results of drain versus pressure dressing in mesh repair for para umbilical hernia (PUH), to achieve the most accepted post-operative condition and to help in decreasing the morbidity of complication and mortality rate down to zero.

Patients and Methods

This comparative prospective study included a total of 26 patients with a follow up on 1st, 2nd, 3rd and 12th post op day who were all complaining of an uncomplicated para umbilical hernia and all are treated with the onlay mesh technique. Also post op pain score was recorded as (0-3 mild, 4- 6 moderate, 7-10 severe). Moreover post op discharge days were also recorded to analyse the number of days spent in patient in each category. 13 patients with suction drain placement and 13 patients with pressure dressing attending at Surgical A unit Hayatabad Medical Complex Peshawar.

Approval of the ethical committees of both the Gen Surgery Deptt and the faculty of medicine at Surgical A unit Hayatabad Medical Complex Peshawar and a written informed consent from all the subjects were obtained. This study was conducted between Feb 209 to June 2019. Eligible participants were patients presenting with uncomplicated para umbilical hernia. Patients with recurrent PUH were excluded. Data regarding age, gender, body mass index (BMI) and associated co-morbidities were obtained from all patients. Following preoperative evaluation and preparation for surgery, patients were randomly assigned into two groups of which thirteen patients to receive a drain tube and other thirteen will be having pressure dressing.

All patients were subjected to clinical evaluation including, history taking, general & local examinations, investigations (CBC, LFT, serum creatinine level, RBS, U/S abd, CXR, ECG and ECHO).

Operative technique: All patients were given 1gm 3rd generation cephalosporin antibiotic preoperatively at the time of induction and continued till the 5th postoperative day twice daily. The operation is performed under general aneshtesia. Preparation and disinfectant of skin follow by either midline or transverse skin incision

that is directly over the hernia defect. After incising the subcutaneous tissue the sac is dissected and delineated then defect is opened. The sac dissected and delineated and a plane is created between the subcutaneous tissues of the abdominal wall and anterior rectus sheath. The mesh should overlap the midline by 5cm laterally and the umbilicus vertically. It should therefore be a minimum diameter of 10cm. the mesh is fixed by few interrupted 2/0 polypropylene suture. Suction drain was inserted in 13 patients. Closure of the subcutaneous tissue and skin by sub cuticular sutures. Statistical analysis used for this study calculation was on IBM statistics SPSS 20.

Results

Total 26 patients who had paraumbilical hernia repair were included in the study. Out of 26, 13 patients had drain put in post op whilst remaining 13 patients had pressure dressings applied post operatively. None of them had any co morbidity. Post operative pain score was recorded as 0-3 mild, 4-6 moderate, 7-10 severe). Moreover post op discharge days were also recorded to analyse the number of days spent in patients in each category.

Following results were obtained upon followup for the above criteria:

All 13 patients with drain reported post op pain score 0-3 mild. 8(61.5%) patients had seroma on postop day 1, 3(23%) had seroma on day 2, 2(15.4%) did not develop seroma postoperatively. All patients with drain had spent 2 days as in patient. On the other hand patients with pressure dressing also reported post op pain score as 0-3 mild. None of 13 patients develop any post op complication on day 1,2,3 & 12. All patients with pressure dressing had spent 1 day as in patient. In terms of pain score, there is no difference between drain & pressure dressing. However post op complications in pressure dressing is very low as compared to those who had drain placement. Moreover patients with pressure dressings also had fewer days spent as inpatient vs those who had drain placed.

Mode	Seroma day 1	Seroma day 2	Seroma day 3	Seroma day 12
Pressure dressing	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Drain placement	8(61.5%)	3(23%)	0 (0%)	0 (0%)

Discussion

The greater part a million hernia tasks are performed in the US every year. Fourteen percent are umb hernias, with an occurrence equivalent between male furthermore, female kids, at the same time in grown ups. It is multiple times more typical in ladies than in men ten percent are incisional hernias, with male to female proportion, 1:2. Epigastric hernias happens at a commonness of 0.5% and are progressively normal in guys with male to female proportion 3:1. Spigelian hernias are uncommon and happen in people matured around 50 years, with no sex or side preference. Interparietal and lumbar hernias are uncommon[14]. Ventral hernias remember all hernias for the anterior and lateral abdominal wall. Midline abandons incorporate umbilical, paraumbilical, epigastric and hypogastric hernias. Umbilical hernias are by a wide margin the most well known kind of ventral hernias, they are generally small furthermore, are increasingly basic in ladies. Paraumbilical hernias are enormous abdominal defects through the linea alba in the locale of the umbilicus and are generally idenfitifed with diastasis of the rectus abdominis muscles. Epigastric hernias and hypogastric hernias happen in the linea alba above and beneath the umbilicus, separately, lateral hernia incorporate spiglian hernias which can happen anyplace along the length of the Spigelian line[15].

Hernia recurrence is a troubling occasion to patient and humiliating to specialists and pressure free mesh repair is a perfect skill which has diminished the frequency of repeat, the area of the support seems to impact results[16-17].

Drains placed through the anterior abdominal wall is also not without complications. These complications include wound infections, drain site abdominal hernia (DSH), intestinal obstructions, formation of adhesions, fecal fistulae and persistent sinus tract[18].

Addition of a drain is a typical strategy after umblical and paraumblical hernia procedures, in spite of the fact that its motivation is to limit post careful complexities and dismalness of the patient it has its very own entanglements expanding patients morbidities. In this manner it is essential to know the nearness of such inconveniences and their inclining factors with the goal that specialists can take measures to avoid certain tragic complications.[19]

There is inadequate proof to decide if drains after hernia repair are related with preferable or more regrettable results over no drain.

Conclusion

Mesh repair remains the standard procedure for paraumbilical hernias and use of drain amongst patients having mesh repair for para umbilical hernia reulsted in post op complications and also more stay in hospital while those having pressure dressing had no complications and less duration of in patient hospital stay. We suggest more trials on use of drain and pressure dressing in paitents having paraumbilical hernia repair with the inclusion of a larger number of cases at a longer period of followup.

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