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Incisional Hernias and the Outcome of various Surgical Techniques

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Abstract: **Background: Incisional hernias develop in up to 13% of laparotomy incisions: the most difficult to repair are complex, multiply recurrent hernias with significant loss of domain (>15-20% of the abdominal contents). Objectives: This research will take place to identify the best method for incisional hernia repair with least recurrence rate and to give best results by providing most suitable surgical environment. Methodology: Medline (pubmed) literature review and analysis for previous studies that are discussing Incisional hernia complications and repair and different surgical procedures for managing the incisional hernias, which become a common recurrence after open surgeries especially in abdominal wall. Result: Many thousand laparotomy incisions are made every year and the disappointment rate for conclusion of these abdominal injuries is between 10–15%, making an expansive issue of incisional hernia. In the past huge numbers of these hernias have been disregarded and treated with abdominal trusses or deficiently made do with high disappointment rates. The presentation of cross section has not had a critical effect since surgeons don't know about cutting edge successful techniques which might be utilized to remake imperfections of the abdominal wall. Conclusion: Smaller incisional hernias with a transverse diameter < 10 cm can be repaired successfully by a laparoscopic approach if a suitably skilled surgeon is available, although an ugly scar may remain on the anterior abdominal wall.**

Keywords: **Incisional hernias, various Surgical Techniques.**

1. INTRODUCTION

An incisional hernia, also called a ventral hernia, is a bulge or protrusion that occurs near or directly along a prior abdominal surgical incision. Repair of ventral hernias have dependably been a testing procedure for the specialists on account of the mutilated life systems taking after past surgery. Different surgical techniques fluctuating from open repair to meshplasty have been utilized to repair the hernias. With the headway of laparoscopy, ventral hernias are being repaired laparoscopically in expanding numbers. Notwithstanding ventral hernias repair being done in expansive numbers there is still not an accord about the best repair.

Incisional hernias are a heterogeneous issue and diverse techniques for repair might be shown for particular imperfections or areas. Extraordinary points of interest of the open technique incorporate the capacity to treat loss of area with the segments separation and restoration of abdominal wall anatomy and function (Fig. 1). No technique is the ‘best’ solution; knowledge of a wide variety of surgical options applied by surgeons with different skills is the optimal solution.

The risk factors for the development of incisional hernia include obesity, diabetes, emergency surgery, postoperative wound dehiscence, smoking and postoperative wound infection (van't Riet et at. 2004). The risks of repairing an incisional hernia which should be explained to the patient when obtaining consent include seroma formation, wound infection, injury to intra-abdominal structures and recurrence (Society for Surgery of the Alimentary Tract.2004). Major complications which can occur in repair of large incisional hernias include mesh infection and enterocutaneous fistula which may result in prolonged morbidity and require re-operation.

figure1. Large incisional hernia with loss of domain, only suitable for open repair

There was study (Flum DR, Horvath K,2003) showed population-based demonstrated that despite the wide use of prosthetic lattice in incisional hernia repair, results did not enhance in the period 1987–1999. The present arrangement shows that with fitting case choice both sublay and onlay network techniques give great results for repair of complex incisional hernias with noteworthy loss of area. Dreariness rates, notwithstanding, are high however most can be overseen conservatively without the requirement for further surgery. The sublay technique is obligatory where there is a suprapubic part to the hernia all together for (profound obsession to be connected inside of the pelvis.

2. OBJECTIVE

This study was undertaken to find out the best operative method to treat Incisional hernia with least rate of recurrence. And to highlights the most incidence causes of incisional hernia to educate patients who are going under surgical procedure about the condition that may cause more complication results than the condition was operated for. And also to evaluate the different Incisional hernia repair techniques that could be suitable for most of patients suffering from this condition.

3. METHODOLOGY

Medline (pubmed) literature review and analysis for previous studies that are discussing Incisional hernia complications and repair and different surgical procedures for managing the incisional hernias, which become a common recurrence after open surgeries especially in abdominal wall, our searched was by using the search terms ‘hernia’ and ‘incisional’ alone and in combination. Publications were selected mostly in the past 5 years, but did not exclude commonly reference and highly regarded older publications. The reference list of articles was also searched, identified by the search strategy and those selected that were relevant. Selected review articles and meta-analyses were included because they provide comprehensive overviews that may be beyond the scope of this article.

4. RESULTS

The Mesh Technique there is no long-term clinical or experimental data to support the use of most mesh products presently in use. The only randomised trial comparing light-weight mesh with standard-weight mesh in open repair reported a 17% recurrence rate for light-weight and a 7% recurrence rate for standard-weight mesh (Conze J et al, 2005). The seroma rate for light-weight mesh using the sublay method was 34%. Abdominal wall compliance was collected in 87 patients and showed no treatment differences between light-weight and standard-weight groups indicating that the concept of the ‘stiff man syndrome’ or problems with compliance with standard-weight mesh in open repair is a myth (Kingsnorth A et al, 2007).The problems of mesh shrinkage have been exaggerated by extrapolation from animal studies. In a clinical surveillance study of shrinkage of polypropylene mesh inserted by onlay or sublay technique, a

reduction in the calculated area of the mesh stabilized at approximately 30% at 12 months. Therefore, a mesh of 10 × 10 cm (100 cm^2) will reduce in size to approximately 8 × 8 cm (64 cm^2, a 36% shrinkage in area) representing a reduction in width or overlap of 2 cm, which is still sufficient to prevent recurrence at the edges of the mesh.

(Küng C et al, 1995) From 1986 to 1990, 150 patients were operated for recurrent hernia in the St. Claraspital Basel. After a mean follow up of 5 years, 125 patients (83.3%) were evaluated. The recurrence rate of hernias--mostly first recurrences--was 19.2%; two thirds occurred in the first 24 months after operation. The time between the primary repair of the incisional hernia and the first recurrence was 23.1 months, between first and second recurrence 15.8 months and between second and third recurrence 12 months. Patients operated by a consultant showed a lower recurrence rate (16.6%) than patients operated by residents (30.4%). In primary hernias, repaired by a simple direct closure, a recurrence rate of 23.2% was observed and after a second or third operation even one of 50%. After implantation of a non-resorbable mesh, this rate was 12.5% of 14.3%, respectively. The recurrence rate was independent of the size of the defect. As result of our investigation, we would recommend to repair recurrent hernias by inserting a non-resorbable mesh by experienced operators.

5. CONCLUSION

Smaller incisional hernias with a transverse diameter < 10 cm can be repaired successfully by a laparoscopic approach if a suitably skilled surgeon is available, although an ugly scar may remain on the anterior abdominal wall. Major defects > 10 cm are best repaired by an open operation. The simplest and most versatile technique is the onlay method. Hernias with loss of domain can only be repaired by an open method supplemented by components' separation. The understanding of the indications for biological meshes is under development. There are limited clinical data and short-term follow-up. Currently, the main application is in an infected or potentially infected field where the high cost is offset by the potentially expensive complications of an infected prosthetic graft.

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