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INCISIONAL HERNIAS: A COMPREHENSIVE STUDY ON THE INCIDENCE AND MANAGEMENT BY OPEN SURGERY

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ABSTRACT

This prospective study was conducted in Meenakshi medical college and Research institute Kanchipuram for the period 2010-2012. A total number of 87 patients were included for this study. Patient who had herniation at the site of previous surgery, through the previous surgical scar were chosen for the study. The clinical presentation, age and sex incidence, details of previous surgeries, postoperative complications during previous and present surgery, onset of hernia, site of incisional hernias, methods of repair and recurrence were studied. The main aim of the study was to identify the etiological factor, to highlight the strategies for prevention of incisional hernias, to find the best management procedures for incisional hernias.

Keywords: *Incisional Hernias, Abdominal Incisions, Suture Material, Wound Complications*

INTRODUCTION

Incisional hernias are the hernias that appear through the layers of the abdominal wall, at the site of previously made incisions and are undesirable sequel of surgery which is iatrogenic problem. Because of the awareness more consideration is being given to the choice of incision, selection of the suture materials, techniques of the wound closure and factors modifying the wound healing. This study focuses on risk factors, prevention of occurrence and management of incisional hernias by open surgical methods. The anterior abdominal wall consists of skin, subcutaneous tissue and muscle layer. The anterior abdominal wall has 3 layers of muscle, each running in different directions. The muscles become aponeurotic as they approach the midlines and become the linea alba. The muscles of the anterior abdominal wall include External oblique, Internal oblique, transverses abdominis, Rectus abdominis and pyramidalis. Normally the wound healing occurs by first intention (primary union) sometimes because of more extensive loss of cells and tissue infection, inflammatory ulceration, abscess formation create large defect, in such case granulation tissue grows from the margin to complete the repair called healing by secondary intension (secondary union). Incisions through the abdominal wall are based on the anatomical principles. As the intra-abdominal pressure is considerably high, the abdominal wound should be kept as strong as possible otherwise there is every chance of the abdominal contents to leave the abdominal cavity through the weak area which is caused by a badly placed incision resulting in a condition known as Incisional Hernia. Some principles of abdominal incisions are -

1. The incision must be minimum, but adequate and give ready access to the part and should also admit extension if required.
2. The muscles must be split in the direction of the fibres rather than cut across.
3. The incision must not divide any nerves which are supplying the muscles.
4. The openings made by the cut, through the different layers of the abdominal wall must be as far as possible and not superimposed.
5. The drainage tubes should be inserted through separate small incisions as their pressure in the main wound may seriously prejudice the strength of the ultimate scar.

This study found 62% risk of incisional hernia when the fascia was approximated with absorbable sutures compared with non-absorbable sutures.

Management of the Incisional hernia comes under two headings- preventive, operative. Preventive aspects include proper choice of incision, Avoidance of tension on suture lines, preservation nerves in lateral incisions and proper closure of the abdominal wounds.

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Operative management consists of anatomical reconstruction layer by layer, reconstruction of various layers of the abdominal walls, darn technique usage of implants, repair with synthetic non absorbable mesh.

In this study the indications for surgery includes large and unsightly hernia, Pain and discomfort at the site of Hernia, Large Hernias with small openings as the high risk of strangulation is there. A history of recurrent attacks of sub-acute obstruction, incarceration and irreducibility and strangulations. Contraindications includes – when it does not bother the patient and shows no science of growing, deep sepsis with continuing discharge with sinuses and calcifications.

With the extensive use of laparoscopy for virtually any type of abdominal surgery more and more incisional hernia repairs are done by laparoscopy. Laparoscopy has its obvious advantages of minimal invasiveness, shorter post-operative stay and early return to work.

Post-operative management – Patient who had small defects are mobilised the same evening of operation and are encouraged to return to their normal activities as soon as possible. Oral fluids started on the next day. Low molecular weight heparin can be started. Physiotherapy is given to all patients. Complications include–mostly infections.

MATERIALS AND METHODS

The study is a perspective study was conducted in Meenakshi Medical College and Research Institute, Kanchipuram for the period 2010 to 2012. 87 patients were included for this study. Patients who had herniation at the site of previous surgery, through the previous surgical scar were chosen for the study. Observations were made with regards to duration and ease of operation, wound complications, mesh infection, hospital stay, morbidity and recurrence. All patients were assessed preoperatively, intra operatively and postoperatively, and the findings were recorded in a pre-tested structured questionnaire. Patients were evaluated in terms of age, gender, body mass index (BMI), mean operation time, length of hospital stay, surgical site infection (SSI) and recurrence rate.

RESULTS AND DISCUSSION

In our study 83% of patients were women may be because of high incidence of caesarean section performed. As LSCS done through the lower midline incision was the commonest cause of incisional hernias, the commonest age group was fourth decade that is from 30 – 40 years. In our study it is observed that emergency surgeries (49) are more likely to lead to incisional hernia than elective surgeries (38). The most common recognizable association with incisional hernia was found to be post-operative wound infection. 22 out of 87 patients were obese.

The most common time of onset of hernia in our study – less than 6 months (32 patients) 6 to 12months (43 cases). The methods of repair done – anatomical repair 24 cases, mesh repair 63 cases. Out of 87 cases operated 18 cases had minor complications like seroma.

Observations and Conclusions

We studied 87 patients over the course of two years. It is more common among middle aged, working population (62% occurring in the group 30 – 40) women's suffer more than men because of caesareans operation and hysterectomies are the most common surgeries performed in India. It is more commonly follows emergency surgeries than elective surgeries.

More than 61% of these surgeries that resulted in incisional hernias had some or other post-operative complications- the commonest being wound infection. Many had pulmonary symptoms in the immediate post-operative period. 12% of the patients had more than one post-operative complication in the immediate post-operative period.

Increased incidence of incisional hernia following sterilization surgeries noted. Lower midline incisions were more likely to give way when compared to transvers incisions and upper midline incisions, same also with absorbable suture materials. 22 out of 82 % patients were obese. Most of the patients presented before a year but consented to surgery after 2 or 3 years. In spite of wide variety of incisional hernia repair options available.

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They are 2 types of repair, mesh repair and anatomical repair. Laparoscopic repair of hernia are increasing nowadays.

As Incisional hernias are more common among the women following pelvic surgeries. More meticulous primary closure of abdominal incisions, correct use of suture materials using transverse incisions for most of the pelvic surgeries prevents occurrence of incisional hernias. More care needed during emergency surgical procedures.

Good pre and post-operative antibiotics and wound care is essential. Mesh repair is almost the gold standard for the incisional hernias. But we should not forget that incisional hernia is a preventable surgical complication.

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