Original Research Paper

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GENERAL SURGERY

CLINICO PATHOLOGICAL STUDY OF INCISIONAL HERNIA : A TERTIARY HOSPITAL BASED PROSPECTIVE STUDY

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ABSTRACT **Background:** The incisional hernia is the result of failure of lines of closure of the abdominal wall following open / laparoscopic surgeries, the approximated tissues are separate and abdominal organs mainly Bowel , bulges through the gap which is covered from inside out with the peritoneum, scar tissue and skin. **Aim and Objective:** The aim of our study is to understand the relative importance of various factors predisposing to incisional hernia in a tertiary care hospital . **Methods:** All patients presenting with unsightly bulge in the operative scar registered in the department of general surgery GSVM medical college Kanpur between 2020-2022 were identified. Data on incisional hernia were obtained from outpatient follow up , aged below 70 years , consenting individuals. Both males and females below the age 70 were selected for study .Patients who came for follow up post operative were also included in study . Anaemia was defined at 12.0 g/ dl . Obesity was defined at BMI >30 . Wound dehiscence was defined as total or partial separation of previously approximated edges . Diabetic patients were defined as those with HbA1c >6.5.

Results:

1. There was female preponderance with Male to female ratio being 1: 2.09 Incisional hernia occurred commonly in female patients of 31 to 40 years(27.5%) age group. while in males it was 41-50 years age group(13.8%).
2. Majority of the incisional hernia(75.8%) became evident within 6 months of previous surgery.
3. All patients presented with bulge in the anterior abdominal wall, in 44.82% patients pain was prominent symptom with skin ulceration in 3.43% of the cases.
4. Incisional hernia commonly occurred in obese (45%) females. More than half (62%) of the patients had poor muscle tone. Anaemia was present in 31% of cases.
5. Prominent risk factors which lead to occurrence of incisional hernia were infection and lax abdomen with poor muscle tone (62%), followed by obesity (45%), postoperative cough (41.2%), postoperative distension (41%), anaemia (31%), burst abdomen (24%), diabetes (17.2%), and re-laparotomy in (10.3%) cases

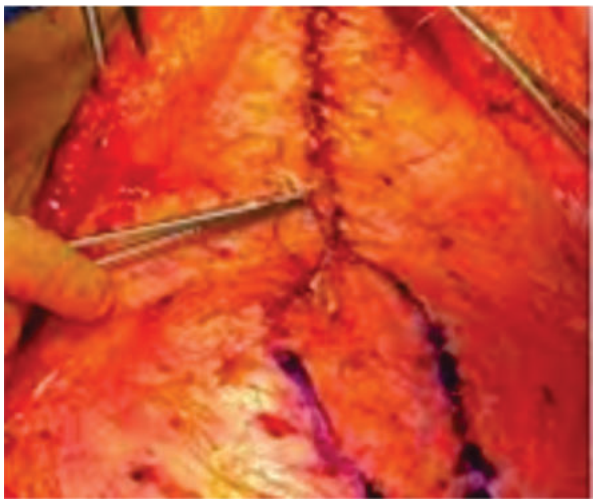
KEYWORDS :

BACKGROUND

Incisional hernia seems to constitute the second most frequent type of hernia after inguinal hernia..

Aetiology

[A] EARLY HERNIA:The early occurring type which appear soon after the original laparotomy closure, often involves the whole length of the wound, grow rapidly and become large.



1. POOR SURGICAL TECHNIQUE
(a) Non anatomic incision
(b) Layered closure:
(c) Inappropriate suture material
(d) Suturing technique: .
(e) Tension:
(f) Sepsis :
(g) Drainage tubes:
(h) Obesity:

2. GENERAL CONDITION. The factors include age, operative generalised wasting, malnutrition, starvation, hypoproteinemia, malignant disease, anaemia, diabetes mellitus, liver failure, ascites, prolonged steroid therapy, immunosuppressive therapy and alcoholism. Abrahamson (2001)

3. POST OPERATIVE COMPLICATIONS:Post operative complications increase the incidence of post operative hernia. These include prolonged post operative paralytic ileus, intestinal obstruction and chest complications such as COPD, collapse, bronchopneumonia, emphysema and asthma. Abrahamson (2001)

4. TYPE OF OPERATION.

5.POST OPERATIVE WOUND DEHISCENCE:Post operative wound dehiscence or burst abdomen whether covered by skin or frank evisceration, is often followed byPost operative hernia whether re-sutured or treated by open method. Efron (1965).

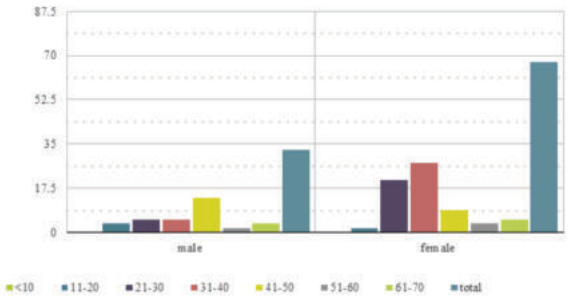
[B]LATE HERNIAS:

1. TISSUE FAILURE: Incisional hernia develops in what apparently is a perfectly healed wound . Aging, weakening of the tissue due to raised intra abdominal pressure associated with chronic cough, constipation are cited as factors in occurrence of incisional hernias.

2.COLLAGEN ABNORMALITIES: Abnormal collagen production and maintenance have shown to be associated with recurrent hernias in certain patients. Peacock(1978) .The presence of incisional hernia is accompanied by impaired collagen synthesis in the skin. The decreased tensile strength of collagen type 3 may play a key role in the development of incisional hernias.

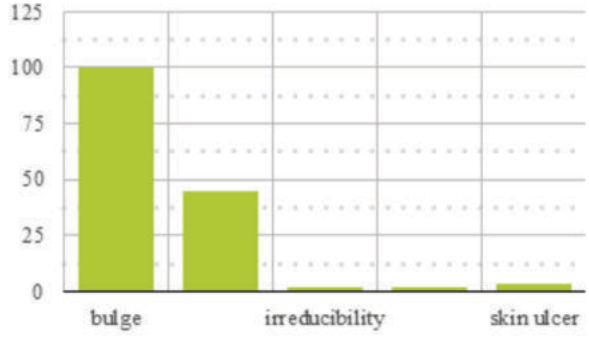
OBSERVATION

1. Age And Sex Distribution In 150 Patients With Incisional Hernia



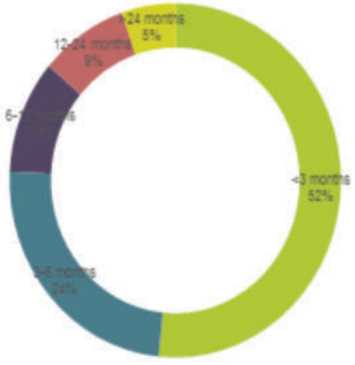
This chart demonstrates the age and sex distribution among incisional hernia patients. Out of 58 patients 19 (32.75%) were male and 39 (67.25%) were female. The age range was 11 to 70 years. Most of the females 16 (27.42%) were between 31-40 year age group and most male 8 (13.79%) were between 41-50 year age group.

2. Presenting Complaints



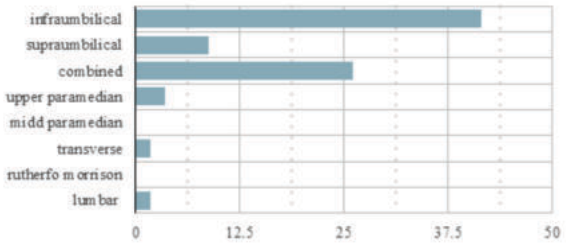
Bar graph lists the presenting symptoms. In addition to all patients complaining of bulge in the anterior abdominal wall 26(44.82%) patient complained of pain at the site of hernia and1 (1.72%) of Irreduciblity .skin ulcer was present in 2(3.43) of the cases.

3. Time Of Appearance Of Incisional Hernia

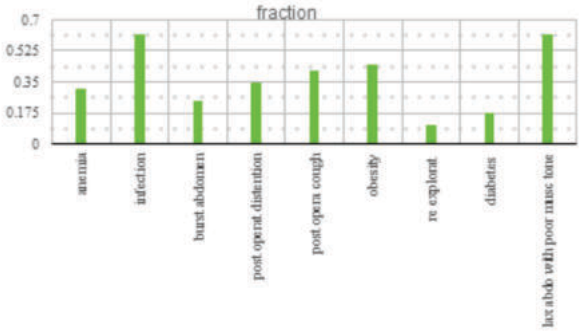


After the primary operation. Most of the patients 30 (51.6%) developed incisional hernia within 3 months. 14 (24.2%) cases developed hernia between 3-6 months, 6 (10.4 %) cases developed between 6 months 1year and rest developed after 1 year of primary operation.

4. Analysis Of Scar Site In Incisional Hernia



5. Risk Factors Responsible For Occurrence Of Incisional Hernia .

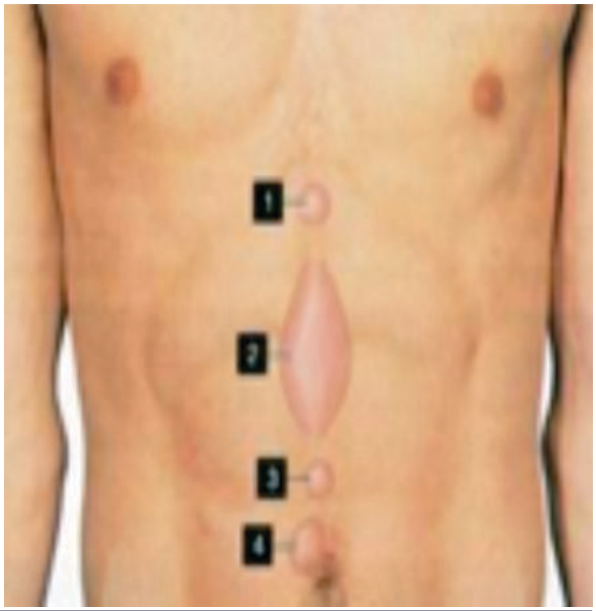


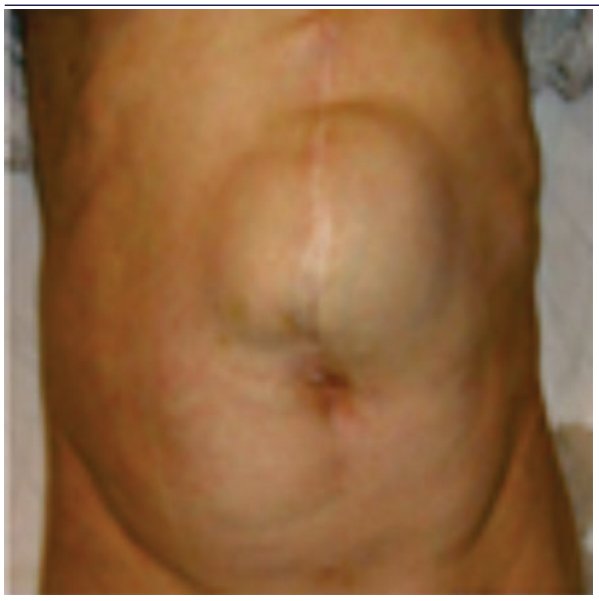
This bar graph shows that the most common risk factors for the development of incisional hernia following operation were infection and lax abdomen with poor muscle tone (62%), followed by obesity (45%), postoperative cough (41.2%), postoperative distension (41%), anaemia (31%), burst abdomen. (24%), diabetes (17.2%), re-laprotomy (10.3%).

CONCLUSION AND DISCUSSION

A. SEX AND AGE DISTRIBUTION OF INCISIONAL HERNIA: Most of the incisional hernia cases were female. Male to female ratio was 1:2.09 . The female preponderance noticed by us is the usual finding in the literature also. Incisional hernia most commonly involved age group in female was 31 to 40 years (27.5%), while in males itwas 41-50 years age group.

B. GENERAL CONDITION: In 45% cases obesity(BMI >30)was present and this was one of the main risk factor for development of incisional hernia. More than half (62%) of the patients has poor muscle tone.





C. SITE OF INCISIONAL HERNIA: In our study,maximum number of incisional hernia (41.4%) cases belonged to midline infraumbilical ,followed by combined supra and infraumbilical type (26%) cases. Reason for high incidence of midline infraumbilical incisional hernia is that posterior rectus sheath is deficient below umbilicus.

D. TIME OF PRESENTATION: Majority of the incisional hernia (75.8%) became evident within 6 months of surgery. However 24.2 % cases became evident only after 6 months .This late hernia occurred without any apparent predisposing factor and were smaller in size and less troublesome.

E. PRESENTING COMPLAINTS: all patients complained of bulge in the anterior abdominal wall, 44.82% patient complained of pain at the site of hernia and 1.72% of irreduciblity .skin ulcer was present in 3.43% of the cases. Strangulation of incisional hernia is very uncommon as the hernia neck is very wide as compared to other types of hernia.

F. RISK FACTORS PRESENT AT THE TIME OF PRIMARY PROCEDURE RESPONSIBLE FOR DEVELOPMENT OF INCISIONAL:Infection was present at the site of herniation in 62% cases and it was confirmed by presence of wider scar it was followed by obesity 45% cases postoperative cough (41.2%), postoperative distension (41%), anemia (31%), burst abdomen (24%), diabetes (17.2%), relaprotomy (10.3%).

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