

A STUDY OF RISK FACTORS ASSOCIATED WITH THE INCISIONAL HERNIA

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ABSTRACT

Introduction: Incisional Hernias are common complication of abdominal surgery. Depending on the risk factors Incisional Hernia can occur in 10 – 20 % of patients subjected to abdominal operations. **Aims and Objectives:** To Study risk factors associated with the incisional hernia at tertiary health care center. **Material and Methods:** This study was carried out at Rajah Muthiah Medical College Hospital, Chidambaram, for a period of from July 2014 to October 2016. Total 50 cases were studied. The cases had a detailed clinical examination in view of position, size, shape of hernia, previous scar, contents of hernia, reducibility, size of defect. Tone of muscles, cough impulse and skin over swelling **Result:** The study shows that the majority of the patients are in the age group of 31-40 years. The study shows that incisional hernia is more in females with female to male ratio 6:1. Majority of incisional hernia occurred below the umbilicus (50) i.e. lower midline and Pfannenstiel incision. The majority of the patients were having risk factors like Obesity in 10 patients followed by, H/o Smoking, Tobacco chewing in 8 patients; Anemia in 5; Asthma in 1; URTI/Chronic cough in 4. **Conclusion:** It can be concluded from our study that the most important predisposing factors were female sex, below the umbilicus incisions, and associated risk factors like H/o Smoking / Tobacco chewer, Anemia, Asthma, URTI/Chronic cough.

Keywords: Incisional hernia, Obesity, Smoking, Tobacco chewing, Anemia, Asthma, URTI/Chronic cough.

1. INTRODUCTION

Incisional Hernias are common complication of abdominal surgery. Depending on the risk factors Incisional Hernia can occur in 10 – 20 % of patients subjected to abdominal operations. Incisional hernia is the one true iatrogenic hernia. Ian Aird defines incisional hernia as a diffuse extrusion of peritoneum and abdominal contents through a weak scar of an operation (Farquharson and Moran, 2005; Richards et al., 1983; Nieuwenhuizen et al., 2006.) Many factors are associated with incisional hernia like age, sex, obesity, chest infections, type of suture material used and most important wound infection. All these present a challenging problem to the surgeon.

Incisional hernia usually starts early after surgery, as a result of failure of the lines of closure of the abdominal wall following laparotomy. If left unattended they tend to attain large size and cause discomfort to the patient or may lead to strangulation of abdominal contents (Ansari, 2012; Goel and Dubey, 1991). Further more, an incisional hernia can incarcerate, obstruct, perforate or can cause skin necrosis all of which markedly increase the risk to patient's life.

With the advent of anesthesia, antisepsis, antibiotics and greater understanding of anatomy, the scientific approach to hernial treatment dawned. Currently by the judicious use of the above three concepts, incisional hernia is repaired with least morbidity, mortality and recurrence rates. Almost every surgeon has got his own techniques and may modify it to suit the situation (Hoer and Lawong, 2002; Akman, 1963).

This study has been undertaken to assess the magnitude of this problem, various factors leading to development of this condition and the different modalities of treatment practiced in our set up.

2. MATERIAL AND METHODS

This study was carried in Rajah Muthiah Medical College Hospital, Chidambaram for a period from July 2014 to October 2016. Total 50 cases were studied. Following criteria were applied to the cases - Patient presenting with incisional hernia in surgical OPD and getting admitted in surgical ward during study period were included into the study while

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patients with age less than 12 years and patients with malinancy,ascites,uncontrolled obesity were excluded

from the study.A through history of each patient in the study was taken regarding the onset and progression of symptoms like pain, vomiting, cough, dysuria, reducibility.History regarding the previous surgery in view of indication, duration of hospital stays, day of suture removal, post-operative complications was taken. A personal history regarding chronic cough, bladder and bowel complaints, addictions was taken which would have contributed to etiology of incisional hernia. The cases had a detailed clinical examination in view of position, size, shape of hernia, previous scar, contents of hernia, reducibility, size of defect,tone of muscles, cough impulse and skin over swelling.

3.RESULT

Table 1:distribution according to age

Age (years)	No.of cases	Percentage (%)
11-20	-	-
21-30	14	22.6%
31-40	20	40%
41-50	9	18.2%
51-60 yrs	5	12.4%
61-70 yrs	2	6.8%
Total	50	100%

The study shows that the majority of the patients are in the age group of 31-40 years.

Table 2: Sex distribution

Sex	No of cases	Percentage
Male	08	13%
Female	42	87%
Total	50	100%

The study shows that incisional hernia is more in females than in males with female to male ratio 6:1.

Table 3: Nature and type of previous incisions (previous surge ry)

Type	Surgery	No. of cases	Percentage (%)
Lower midline	Tubectomy cystolithotomy hysterectomy LSCS.	36	68%
Midline	Laparotomy	10	20%
Mc. Burneys	Appendectomy	4	12%

From the study it was concluded that majority of incisional hernia occurred below the umbilicus i.e. lower midline and pfannensteil incision.

Table 4: Other -risk factors

Risk factors	No. of cases	Percentage (%)
Obesity	10	40.0%
Smoker/ Tobacco chewer	8	26.66%
Anemia	5	20.0%
Asthma	1	8.67%
URTI/Chronic cough	4	4.67%
Total	30	100%

The majority of the patients were having risk factors like Obesity in 10 patients followed by, H/o Smoking / Tobacco chewer in 8 patients; Anemia in 5; Asthma in 1; URTI/Chronic cough in 4.

4.DISCUSSION

In this clinical study a total number of 50 patients with incisional hernia, were admitted and treated in Rajah Muthiah Medical College Hospital, Chidambaram from July 2014 to Oct 2016. These patients were evaluated for various risk factors in causation of incisional hernia, its clinical presentation and evaluated for outcome of different types of repair. The majority of patients are in age group between 31 to 40 years. J ET AL stated that majority of cases were >45 yrs. The sex incidence of incisional hernia among the 50 cases studied is 6:1. (female: male) which is in favor of females. The incidence is more common in female because of laxity of abdominal muscles due to multiple pregnancies(Mudge and Hughes,1985.). Mean age of incisional hernia presentations is 47 years and there is female preponderance. Most of the patients in our study presented with swelling in previous abdominal incision. Most patients of incisional hernia complain of visible bulge which may cause vague discomfort. In this study, 50% of incisional hernia have occurred in midline below the umbilicus. This may be because of the following features:

- Intra-abdominal hydrostatic pressure is higher in lower abdomen compared to upper abdomen in erect position i.e., 20 cm of water and 8 cm of water respectively.
- Absence of posterior rectus sheath below arcuate line.
- This incision is used in gynecological surgeries who have poor abdominal wall musculature.

Goela Dubey found 48% incisional hernias through lower midline incisions.

In our study, 48% of patients developed incisional hernia within one years of previous surgery. Totally 78% of patients developed incisional hernia within three years of previous surgery and only 16% of patients developed incisional hernia after three years of previous surgery.. In a 10 year prospective trial involving 337 patients, mudge and hughes showed that of the 62 patients who developed incisional hernia, 56% did so after the first post-operative years, and 35% manifested their hernia after 5 years. In akman's (1963) series more than 65% of the incisional hernias occurred within one year of previous surgery. Most of incisional hernias occur during first 6 months' post operatively. Out of 50 cases studied, 4 patients had hypertension, 1 patient had diabetes mellitus. Chronic respiratory problem was found in 4 patients and 2 patients were known asthmatic. Surgery in patients with COPD is supposed to be associated with increased incidence of incisional hernia.

5.CONCLUSION

It can be concluded from our study that the most important predisposing factors were female sex, below the umbilicus incisions, and associated risk factors like H/o Smoking / Tobacco chewer, Anemia, Asthma URTI/Chronic cough.

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