IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 20, Issue 2 Ser.5 (February. 2021), PP 28-31
www.iosrjournals.org

A Prospective Study of Clinical Profile and Management of Incisional Hernia in a Tertiary Care Hospital

Dr.Sanjay Kumar[1], Dr.K.K.Singh[2*]
[1]*Assistant Professor, Department of Surgery, Medinirai Medical College, Medininagar, Palamu, Jharkhand.*
[2*]*Associate Professor, Department of Surgery, Medinirai Medical College, Medininagar, Palamu, Jharkhand, India.*
Corresponding Author: Dr.K.K.Singh

Abstract
Introduction: *Incisional hernias (IH) are among the most common abdominal surgery complications. The overall estimated incidence of IH ranges from 2 to 11%and 80–95% develop it within six months to 3 years after surgery. An 8 to 29% of the IH are asymptomatic and remain undetected if the patient is not examined. Wound infection, suture closure technique and obesity are the most critical risk factors for the development of IH.*
Materials and Methods: *This was a prospective study done at our hospital between January 2017 and December 2020. A total number of 98 cases were included in this study. Detailed history was recorded and thorough clinical examination done. The patients were investigated for routine blood examination, ultrasonography and radiology. The patients were followed up for immediate and delayed postoperative complications. The information thus obtained was, tabulated, and analyzed.*
Results: *The age distribution of the total cases of incisional hernia ranged from 29years to 70 years and had a maximum number of patients in the 31 to 40yrs age group (48%); 82% of patients were less than 55 years of age. We had 82 female patients and 16 male patients, female to male ratio was about5:1.*
Conclusion: *Incisional hernia is more common in females after abdominal surgery. It mostly affects the age group 30-40 years. Most patients were housewives and sedentary workers. It usually appears within two years of the abdominal surgery. The commonest surgeries complicated with IH in our study were, gynecological operations and emergency laparotomies through Infra-umbilical midline incision. Other factors were post-operative wound infection, peritoneal contamination, obesity, multiparity, chronic cough, and constipation. The presenting complain is intermittent swelling and/or pain at the incisional line. Polypropylene mesh repair was found to give the best result with almost negligible recurrence.*
Key Words: *Incisional hernia, Polypropylene mesh repair, ultrasound, chest x-ray.*

Date of Submission: 29-01-2021 Date of Acceptance: 14-02-2021

I. Introduction

Incisional hernias (IH) are among the most common abdominal surgery complications. The overall estimated incidence of IH ranges from 2 to 11% and 80–95% develop it within six months to 3 years after surgery. An 8 to 29% of the IH are asymptomatic and remain unaccounted for if the patient is not examined. Wound infection, suture closure technique and obesity are the most critical risk factors for the development of IH.[2]

An incisional hernia is a late complication following abdominal surgery, occurring as a result of dehiscence of fascial closure and, also, an iatrogenic disease.[3] The incidence after laparotomy has been reported as ranging between 4% and 12%, but the actual incidence is underestimated.[4] Many incisional hernias are asymptomatic, but if symptoms are present, an incisional hernia may be associated with morbidity, reduced work time for those who are employed, and low quality of life. Given the high cost for incisional hernia repair and the disappointing recurrence rates of up to 45%, incisional hernia remains a significant challenge for most surgeons.[5]

The main objective of this study was to analyze the etiopathogenesis of incisional hernia, to determine the patient's variable factors, and operative dependent variables conditions. At the same time to ascertain various modes of presentation and different therapeutic modalities. Aspects in prevention of this dreaded complication of abdominal surgeries were also determined.

II. Materials And Methods

This was a prospective study done at our hospital between January 2017 and December 2020. A total number of 98 cases were included in this study. Detailed history taking, and thorough clinical examination was done. The patients were investigated for routine blood examination, ultrasonography and radiology. The patients were followed up for immediate and delayed postoperative complications. The information thus obtained was, tabulated, and analyzed.

All the patients with incisional hernias with a history of previous surgery were considered, while those with Chronic Cough, respiratory diseases, and other debilitating medical illness were excluded from the study.

Various parameters were analyzed, age and sex incidence, mode and time of presentation, probable preoperative and postoperative factors involved, type of surgery, complications, and follow-up.

III. Results

Age and Sex distribution: The age distribution ranged from 29 years to 70years and had a maximum number of patients in the 31-40yrs age group(48%); 82% of patients were less than 55 years of age. We had 82 female patients and 16 male patients, female to male ratio was about5:1.

Mode of presentation: Out of 98 patients, 79 patients presented with a history of dragging pain, and on examination, the IH was reducible. The others had complications ranging from irreducibility to strangulation.

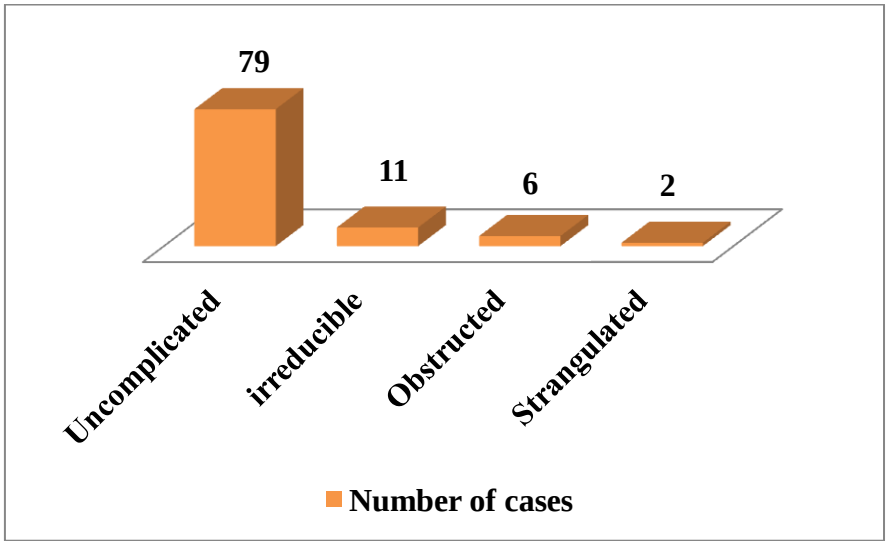

Figure 1: Mode of presentation

Time of Onset: In our study, 25 patients had an early onset of herniation within six months following primary surgery, 40 cases were between 1-5 years, and about 88% had herniation by the end of 5years.

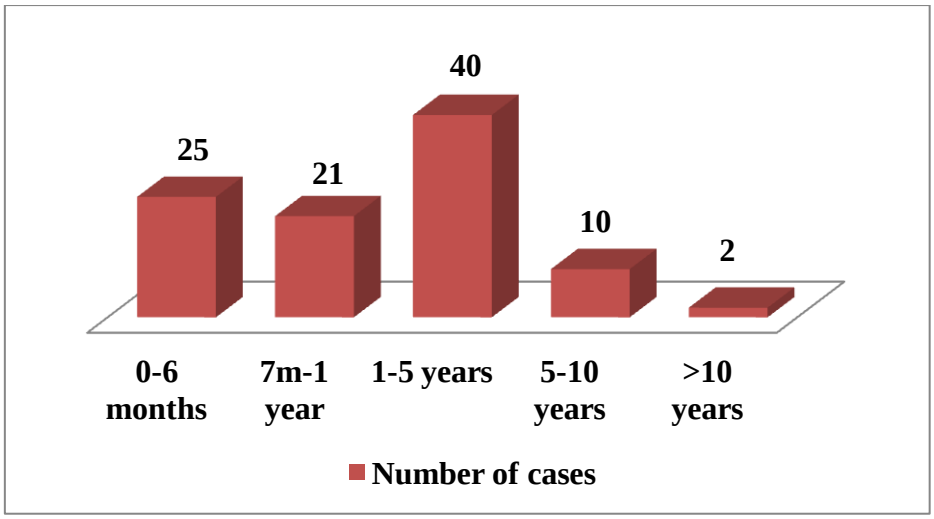

Figure 2: Time of onset

Pre and postoperative factors: In this study, 42 cases had a known definite history of factors possibly leading to an eventual herniation (table 3).

S.No.	Factors involved	Number
1	Post-op wound infection	20
2	Post-op cough	12
3	Early return to work	9
4	Post-op straining	1
5	Total	42

Table 1: Factors involved

Incisions through which herniation occurred: 58 of patients had previous surgeries through lower abdominal incisions, 16 patients with an upper midline incision, 14 patients with right paramedian incision, 6 with Mc Burneys, and 4 with left Paramedian incision(table 4).

Site of Incision in index surgery	Number
Lower abdominal incisions →Transverse → Vertical	 40 18
Upper midline	16
Mc Burney	6
Rt Paramedian	14
Left paramedian	4

Table 2: Site of Incision in previous surgery

Number of Surgeries: Out of 98 patients, 77 patients had only one surgery, 18 patients had two surgeries, and 3 patients had three previous surgeries. As far as recurrence after repair for IH, 9 patients had undergone the last repair for an incisional hernia, two of which had second recurrence after repair.

Surgeries through lower abdominal incision: Lower abdominal incision was the commonest incision predisposing to incisional hernia. Out of 58 patients who had surgery through lower abdominal incisions, 21 cases had undergone Caesarian section, 15 cases- Abdominal hysterectomy, 9 cases- tubectomy, 4 patients had undergone laparotomy. Out of 9 cases that underwent recurrent incisional hernia repair, five occurred following Caesarian section, 3cases following tubectomy, and 1 case after hysterectomy (Table 5).

Surgeries through a lower abdominal incision	Number
Caesarian section	21
Hysterectomy	15
Tubectomy	9
Recurrent incisional hernia repair	9
Laparotomy	4
Total	58

Table 3: Surgeries through a lower abdominal incision

Size of Hernia Defect: The hernia defect was measured preoperatively on ultrasound, and the various sizes of defects are depicted in table 6. The size of the defect was less than 3 cm in 41 patients.
4 out of 6 patients who presented with obstructed hernia had a defect size of < 3 cm. 1 patient with strangulated hernia had a defect size of less than 3 cm.

Size of Defect	Number of Patients
<3	41
4-6	37
7-9	12
10-12	5
>12	3

Table 4: Size of Hernia Defect

Operative Procedures: All 98 patients were operated on, after control of sugars in diabetics, and correction of anaemia in 9 patients. Open Mesh Repair with Polypropylene mesh was done in all the patients.

Complications: In the post op. period, 10% Patients had wound infection ranging from mild to a moderate degree, with seroma formation, which resolved with regular dressings. The postoperative cough was present in 6 cases, treated symptomatically.

Follow up and Recurrence: 82 cases were followed up for variable periods of time-limited by the study period, ranging from 6weeks to 1year.No immediate recurrence was noted up to 6 months. The recurrence rate in this series is 1 percent. This may be due to the limited follow-up period and not all patients turning up for follow up. Mortality: There were no pre or postoperative deaths reported in our study.

Duration of Hospitalization: The average duration of hospitalization was 10.3days.
Emergency surgeries: 6 cases with obstructed hernia and 2 cases with strangulated hernia underwent emergency exploratory laparotomy.

IV. Discussion

The incidence of incisional hernia is 2-11.5% following various abdominal surgery. Ninety-eight cases were included in the study; 48% of patients belonged to the age group of 31-40years. The female to male ratio was about 5:1.The reason probability could be, laxity of abdominal muscles due to multiple pregnancies and increased number of lower abdominal incisions in females. Ellis et al. reported an incidence of 64.6% female population in their study of 383 patients.[6]

Wound infection following surgery, puts the patients at increased risk for incisional hernia [15]. Incidence increases in patients developing a wound infection/burst abdomen, chronic cough during the postoperative period.[7]

In our series, 20 patients had post-op wound infection after surgery. Factors like postoperative cough, postoperative wound infection, early return to work increase intra-abdominal pressure following index surgery and are contributory to the onset of herniation.[8]

The mesh repair is a simple and effective operation for incisional hernia. Numerous studies have established the superiority of mesh repair over suture repair in prevention of recurrence of the hernia. The average hospital stay was 10.[6]

Incisional hernias rates do not differ by type of incision, and the incision should be driven by the surgeon's preference with respect to the patient's disease and anatomy.[10]

V. Conclusion

It has been observed that incisional hernia is commonly seen in females and affects mostly 30-40 years of the age group. These patients are mainly housewives and sedentary workers. The IH usually appears within two years of operation. The common are gynaecological operations and/or emergency laparotomies through Infra-umbilical midline incision. Common accompaniments are postoperative wound infection, peritoneal contamination, obesity, multiparity, chronic cough, and constipation. The patients often come with complain of intermittent swelling and pain at the incisional line. Polypropylene mesh repair has been found to give the best result with nil recurrence.

References

[1]. Mudge M, Hughes L. Incisional hernia: A 10-year prospective study of incidence and attitudes. Br J Surg 1985;72:70-1.4.
[2]. Cuschieri A, Steele RJ, Moossa AR, editors. Incisional hernia. In: Essential Surgical Practice. 4thed. New York: Arnold Publications; 2002. p. 169.
[3]. Bessa SS, Katri K, Abdel-Salam WN, Abdel-Baki NA. Early results from the use of the Lichtenstein repair in the management of strangulated groin hernia. Hernia. 2008;11:239-42.
[4]. Chart R, Chart V, and Eisenstat M. The neutrophil NADPH oxidase. Archives of Biochemistry and Biophysics. 2000:397;342.
[5]. Cichetti G, Allen PG, Glogauer M. A case-control study of incisional hernia repair. Surgical Endoscopy. 2002;14:117-9.
[6]. Ellis H, Gajraj H, George CD. Incisional hernias: When do they occur? Br J Surg. 1983;70:290-1.9.
[7]. Bucknall TE, Cox PJ, Ellis H. Burst abdomen and incisional hernia: A prospective study of 1129 major laparotomies. Br Med J (Clin Res Ed). 1982;284:931-3.
[8]. Millbourn D, Cengiz Y, Israelsson LA. Effect of stitch length on wound complications after closure of midline incisions: A randomized controlled trial. Arch Surg. 2009;144:1056-9.
[9]. Carlson, MA. New developments in abdominal wall closure. Chirurg. 2000;71:743-53.12. Seiler CM, Deckert A, Diener MK, Knaebel HP, Weigand MA, Victor N. Midline versus transverse incision in major abdominal surgery: A randomized, double-blind equivalence trial (POVATI: ISRCTN60734227). Ann Surg. 2009;249:913-20.
[10]. Jenkins TP. The burst abdominal wound: A mechanical approach. Br J Surg. 1976;63:873-6.

Dr.K.K.Singh, et. al. "A Prospective Study of Clinical Profile and Management of Incisional Hernia in A Tertiary Care Hospital." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 20(02), 2021, pp. 28-31.