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A Retrospective Study on Incisional Hernia Requiring Surgical Repair Following Abdominal Surgeries in a Tertiary Care Hospital

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Abstract

Background: Incisional herniae are herniation or protrusion of abdominal content in the area of previous postoperative scar and it is considered as the most important complication of abdominal surgery. This study was undertaken to find out the incidence of incisional hernia and give a picture to the surgeon about the possible ways to avoid such incidence.

Methods: It is a retrospective study conducted in Indira Gandhi Medical College and Research Institute, Puducherry, at the Department of Surgery from January 2015 to December 2019. Case records were collected and looked for various aspects such as age, sex, clinical presentation, duration, previous surgery, previous complications, type of incision, type of sutures, type of surgery, size of the defect, duration of hernia (in years), drain kept, type of surgery done now, and present complications were identified.

Results: The majority of patients presented with a previous history of laparotomy (29.6%) and others were with LSCS (25.9%), TAH (25.9%), and PS (18.5%). Patients with lower midline and Pfannenstiel incision contributed equally with 40.7% each. Most of the cases have reported that the duration of incisional hernia was between 2 to 3 years (40.7%) and Mesh repair was done for 92 cases (85.2%).

Conclusions: Incisional hernias are serious surgical problems and the operating surgeon must take utmost care during surgery and also during incisional hernia repair understanding the morbidity and mortality

Keywords: Incisional hernia, abdominal surgeries, retrospective study, tertiary care

Introduction

Incisional hernia can be any abdominal wall gap with or without a bulge in the area of a post-operative scar perceptible or palpable by imaging techniques or clinical examination.[1] Incisional hernia occurs through a weakness at the site of abdominal wall closure[2] and patients present as a bulge in the post-operative period which may vary from 10days to 2 years. It is a common complication after abdominal surgery with a reported incidence of 11-20% (2). According to earlier findings, incisional hernia occurs in 10 to 20 % of patients subjected to abdominal operations in India.[3]There are different factors that contribute to the occurrence of incision hernia such as failure of fascia to heal if left unattended, tend to attain a large size, and cause discomfort to the patient or may lead to strangulation of abdominal content after laparotomy. Some of the risk factors such as diabetes, jaundice, malignancies, chronic lung diseases, prostatism, chronic constipation contribute to the development of an incisional hernia.[3] Also type of incision, type of suture material used[4] and type of surgical procedure stands as contributing risk factors for incisional hernia. The incidence of incisional hernia has been increasing despite advanced

materials and methods for the management of closing the abdominal wall incisions. Many procedures and newer methods were carried out by the surgeon for the management of incisional hernia using different suture materials, suture repair, prosthetic repair, or laparoscopic methods. However unforeseen complications which may occur in the repair of large incisional hernia include mesh infection and entero-cutaneous fistula resulted in prolonged morbidity and requiring re-operation.[5] In general, hernia recurrence resulted in a high rate of morbidity and mortality pushing surgeons not to undertake incisional hernias. This study has been conducted to know the incidence of incisional hernia and give a picture to the surgeon about the possible ways to avoid such incidence.

Methods

This retrospective study was conducted in the department of general surgery at indira gandhi medical college and research institute, puducherry. Patients who were admitted for incisional hernia surgery for a period of 5 years from january 2015 to december 2019 were included in this study. Patients' case records without necessary information were excluded. Case records were collected from the medical records department after availing necessary ethical approval from the institution and were meticulously looked for various aspects such as age, sex, clinical presentation, duration, previous surgery, previous complications, type of incision, type of sutures, type of surgery, size of the defect, duration of hernia (in years), drain kept, type of surgery done now, and present complications were identified. The collected data were tabulated and statistically analyzed using spss 24.

Results

In this study, out of 108 cases of incisional hernia included retrospectively 24 (22.2%) were male and 84 (77.8) were female. The most vulnerable age group was between 41- 50 years (40.7%) and 31-40 years (37.0%) (Table 1).

Table 1. Gender and age distribution in cases studied

Variables	Groups	Frequency	Percentage
Gender	Male	24	22.2
	Female	84	77.8
Age (in years)	20-30	4	3.7
	3-40	40	37.0
	41-50	44	40.7
	51-60	16	14.8
	>60	4	3.7

Table :1 Majority of patients presented with a previous history of laparotomy (29.6%) and others were with LSCS (25.9%), TAH (25.9%), and PS (18.5%). Patients with lower midline and Pfannenstiel incision contributed equally with 40.7% each followed by midline incision (14.8%). Of the 108 cases studied, in 60 cases (55.6%) absorbable sutures were used and in 48 cases (44.4%) non-absorbable sutures were used (Table 2).

Table 2. Previous surgery, complications, type of incision, and suture used among incisional hernia patients.

Variables	Groups	Frequency	Percentage
	LSCS	28	25.9

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Previous surgery	TAG	28	25.9
	Laparotomy	32	29.6
	PS	20	18.5
Previous complications	Cough	8	7.4
	Wound infection	20	18.5
	Obesity	24	22.2
	DM	4	3.7
	No complication	52	48.1
Type of incision	Lower midline	44	40.7
	Midline	16	14.8
	Pfannenstiel	44	40.7
	Oblique	4	3.7
Suture material used	Absorbable	60	55.6
	Non- Absorbable	48	44.4

Table:2 Majority of the cases included in this study had no previous complications (48.1%). However, obesity was noted among 22.2%, and wound infection was observed with 18.5% cases. The size of the defect was more than 5cm among 92 cases (85.2%) and the size was less than 2cm and 2.5 cm among 8 cases respectively. The duration of incisional hernia was found between 2 to 3 years (40.7%) and within one year (29.6%). Among 108 cases, 24 (22.2%) cases had postoperative seroma. Mesh repair was done in 92 cases (85.2%) and anatomical repair was done in 16 (14.8%) cases. The drain was kept for 28 cases (25.9%). (Table 3)

Table 3. Size of defect, duration, drain details, and present surgery and complications among incisional hernia patients.

Variables	Groups	Frequency	Percentage
Size of defect	<2 cm	8	7.4
	2-5cm	8	7.4
	>5cm	92	85.2
Duration of Hernia (In years)	0-1	32	29.6
	1-2	12	11.1
	2-3	44	40.7
	3-4	12	11.1
	4-5	8	7.4

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Drain kept	Yes	28	25.9
	No	80	74.1
Type of surgery now	Mesh	92	85.2
	Anatomical repair	16	14.8
Present complication	Seroma	24	22.2
	Wound infection	20	18.5
	No complication	64	59.3

Discussion

Incisional hernia repair is one of the common surgical procedures carried out at the surgery department. In this study, out of 108 cases of incisional hernia included retrospectively most of the patients were in the age group between 41- 50 years (40.7%) and 31-40 years (37.0%), These findings are consistent with Carlson *et al.* who identified that most of them are 4th and 5th decade. A female predominance was noted with 77.8% due to laparotomy surgery and LSCS and similar to the findings of Nanjappa et al[6] that is attributed to the laxity of abdominal muscles due to pregnancy and repeated surgery on the abdominal wall.[6,7]

In this study, the incidence of incisional hernia was observed in over 78% of cases due to gynecological procedures (laparotomy, LSCS, and PS) which is contrary to the incidence of 36% reported by Ponka[8] and in concurrence with Goel and Dubey.[9] Patients with lower midline and Pfannenstiel incision contributed equally with 40.7% each, followed by midline incision (14.8%). In 108 cases studied, 60 cases (55.6%) had used absorbable sutures and 48 (44.4%) had used non-absorbable sutures. The majority of the cases included in this study had no previous complications (48.1%). However, obesity was noted among 22.2%, and wound infection was observed in 18.5% of cases. The size of the defect was more than 5cm among 92 cases (85.2%) and the size was less than 2cm and 2.5 cm among 8 cases respectively, which is comparable to the study by Shukla A et al.[5] Santora TA et al stated that the size of the fascial defect and the appearance of the fascia should dictate the selection of the most appropriate method of hernia repair.[10] The duration of incisional hernia was found between 2 to 3 years (40.7%) and within one year (29.6%). Similar findings were noted by Harikrishanan CP et al[11] and Ankenman et al.[12] Among 108 cases, 24 (22.2%) cases had postoperative seroma, similar to Nanjappa et al[6] as seroma formation is one of the most common complications associated with mesh hernioplasty due to the wide-undermining involved.[13] Mesh repair was done for 92 cases (85.2%) and anatomical repair was done with 16 (14.8%) cases, this is similar to the finding of Narayanaswamy.[14]

Conclusion

Incisional hernias are serious surgical problems and the operating surgeon must take utmost care during surgery and also during incisional hernia repair understanding the morbidity and mortality. Surgeons have to operate with minimal dissection, use appropriate local antibiotic solutions and prescribe sensitive antibiotics for better wound healing.

References

1. Korenkov M, Paul A, Sauerland S, Neugebauer E, Arndt M, Chevrel JP, Corcione F, Fingerhut A, Flament JB, Kux M, Matzinger A. Classification and surgical treatment of incisional hernia. Langenbeck's archives of surgery. 2001 Feb;386(1):65-73.
2. Sanders DL, Kingsnorth AN. The modern management of incisional hernias. BMJ. 2012 May 9;344.
3. Williams N, O'Connell PR, McCaskie AW. Bailey & Love's Short Practice of Surgery: Short Practice of Surgery. CRC Press; 2018 Apr 27.
4. Rucinski J, Margolis M, Panagopoulos G, Wise L. Closure of the abdominal midline fascia: meta-analysis delineates the optimal technique. The American surgeon. 2001 May 1;67(5):421.

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5. Shukla A, Ahmed S. Abdominal incisional hernia: a retrospective study. Int J Res Med Sci. 2018 Sep;6:2990-4.
6. Nikhil Nanjappa BA, Smile AM. Incisional hernia repair: a clinical study of 30 Patients. IJCRR. 2013 Aug 17;5(15):35-41.
7. Ellis H, Gajraj H, George CD. Incisional hernias: when do they occur?. Journal of British Surgery. 1983 May;70(5):290-1.
8. Ponka JL. Hernias of the abdominal wall. InHernias of the abdominal wall 1980 (pp. 644-644).
9. Goel TC, Dubey PC. The abdominal incisional hernia-Anatomical technique of repair. Indian J Surg. 1981;43:324-7.
10. Santora TA, Roslyn JJ. Incisional hernia. Surgical Clinics of North America. 1993 Jun 1;73(3):557-70.
11. Harikrishnan CP, Vakayil HJ. Prospective and retrospective study of incisional hernias in a tertiary care hospital. International Surgery Journal. 2017 Jul 24;4(8):2670-6.
12. Akman PC. A study of five hundred incisional hernias. J Int Coll Surg. 1962; 37:125-42.
13. Shell IV DH, De La Torre J, Andrades P, Vasconez LO. Open repair of ventral incisional hernias. Surgical Clinics of North America. 2008 Feb 1;88(1):61-83.
14. Narayanaswamy T, Venugopal K, Nikshita N. Clinical study and management of incisional hernias: our experience. Journal of Evolution of Medical and Dental Sciences. 2013 Nov 25;2(47):9112-9.

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