ABDOMINAL INCISIONAL HERNIAS - A REVIEW OF 50 OPERATED PATIENTS

Maj RS RAI*, Wg Cdr K RUP KUMAR+,
Maj PP MANOJ KUMAR*, Lt Col R PURI+

(Military Hospital Secunderabad)

ABSTRACT

Fifty patients (5 men and 45 women) in the age group of 25 to 65 years with abdominal incisional hernia were studied. The most common antecedent cause (in 86 per cent patients) was found to be a gynaecological operative procedure done earlier through a lower midline incision. All patients underwent anatomical repair and were followed-up after repair for an average of 18 months (range 6-32 months). The results were reviewed and it was seen that there was evidence of recurrence in 3 patients only.

MJAFI 1996; 52 : 236-238

KEY WORDS : Abdominal incisional hernia; Hernia ventral; Surgical wound dehiscence.

Introduction

Abdominal incisional hernia is a common problem encountered in day to day general surgical practice. Amongst the major catastrophes that can follow abdominal operations, wound infection and wound dehiscence are two of the most serious and an incisional hernia is likely to develop within months or perhaps a few years [1]. Patients and surgeons realize all too soon that the wound has not healed properly, necessitating a corrective operation. Furthermore, an incisional hernia can become incarcerated, obstructed, or strangulated and can even cause skin necrosis and perforation, all of which markedly increase the risk to the patient's life.

The reported incidence of incisional hernia varies widely between 0.5 per cent to 13.9 per cent of patients undergoing abdominal operations [2]. A realistic expectation, however, is that approximately 1 per cent of all transparietal abdominal incisions result in postoperative hernia [1]. In this study 50 patients with abdominal incisional hernia were treated and the results reviewed.

Material and Methods

Fifty patients of abdominal incisional hernia admitted to hospital between February 92 and January 95 were included in this study. All patients

were assessed clinically to ascertain the size of the defect. Patients in whom the aponeurotic margin could be approximated easily were taken for repair.

An anatomical repair was done in all patients. During the procedure the scar was encircled and the incision deepened to the aponeurotic layers. Flaps were mobilized and the defect was defined. By another elliptical incision around the defect the dissection continued down to the peritoneum and the scar tissue was excised. The peritoneum was closed with absorbable sutures. The abdominal wall was closed with continuous sutures (No 1 prolene, Ethicon) applied without tension. These were buttressed with interrupted sutures.

Preoperatively all patients were given intravenous ampicillin 500 mg and gentamicin 80 mg at the time of induction of anaesthesia. Antibiotics were continued for 48 hours into the postoperative period. A Romovac drain was used in all patients and sutures were removed on the 12th to 14th postoperative day.

Results

The age of the 50 patients ranged between 25 to 65 years with a median age of 47 years. Most patients (80%) were in the age group of 36 to 55 years (Table 1).

*Graded Specialist (Surgery), +Classified Specialist (Surgery), Military Hospital Secunderabad 500015.

TABLE 1
Age and sex distribution of 50 patients

Age (in years)	Sex		Total (%)
	Male	Female	
25 to 35	3	—	3 (6%)
36 to 45	2	16	18 (36%)
46 to 55	—	22	22 (44%)
56 to 65	—	7	7 (14%)
Total	5	45	50

Incisional hernias were commonest amongst those who had earlier undergone gynaecological operative procedures through a lower midline incision. The time interval between operation and development of incisional hernia varied between immediate post-operative period to 4 years (Table 2). The risk factors which were likely to have been responsible for abdominal incisional hernia in these patients are listed in Table 3.

All patients were followed-up after surgery for an average of 18 months (range 6 to 32 months). The most common complication was a seroma in 10 patients (20%). Other complications included wound infection in 8 patients (16%), faecal fistula in 1 (2%), and recurrence in 3 (6%) patients.

Discussion

Most incisional hernias are satisfactorily repaired using the patients own tissues and employing conventional surgical techniques [3]. Besides the technique of abdominal wound closure the suture material used is important [4]. Proper hernial wound repair should produce a stable aponeurotic structure. The absence of tension on the suture-line is essential. Tension impedes microcirculation, decreases local tissue oxygenation and interferes with proper hydroxylation of proline and lysine. Normal collagen-fibrin polymerization and cross-linking cannot occur and disorganization of scar tissue results [5].

In this study we attempted to restore the normal anatomy as far as possible and provided a stable aponeurotic structure without any tension. The results of this study compare favourably with other series. Despite having patients with multiple risk factors in form of recurrence, obesity, diabetes mellitus, and chronic obstructive airway diseases,

TABLE 2
Details of surgical approach used earlier and time interval between surgery and development of incisional hernia

Incision	Procedure	Time interval (in years)	No of patient	Total (%)
McBurney	Appendicectomy (emergency)	< 1	1	1 (2%)
Upper midline	TV + GJ (emergency)	< 1	2	4 (8%)
	TV + GJ (elective)	< 1	2	
Lower midline	Hysterectomy	2-4	30	
	Elective CS	2-4	4	
	Emergency CS	2-4	6	43 (86%)
	Tubectomy			
	Postpartum	2-4	2	
	Interval	2-4	1	
Pfannensteil	Hysterectomy	1-2	2	2 (4%)

TV + GJ = Truncal vagotomy + Gastrojejunostomy

CS = Caesarian Section

TABLE 3
Risk factors for abdominal incisional hernias in 50 patients

Risk factor	Number of patients
Obesity	20 (40%)
Wound infection	10 (20%)
Emergency surgery	9 (18%)
Diabetes mellitus	7 (14%)
Chronic obstructive airway disease	7 (14%)
Re-recurrence	6 (12%)

Many patients had more than one risk factor
Figures in parentheses indicate percentage

incisional hernias have recurred in only 3 (6%) patients as compared to 9-25% reported recurrence following first repair [6,7] and 50 per cent following repair of recurrent hernia [8]. Even though the follow-up period of this study is relatively short, the comparison appears to be valid as most of the recurrences related to wound closure technique occur in the first few months of follow-up [9].

REFERENCES

1. Baker J. Incisional hernia. In: Nyhus LM, Condon RE, editors. Hernia. 3rd ed. Philadelphia: Lippincott, 1989; 301-37.
2. McVay CB. Hernia. Springfield III: Charles C Thomas, 1954; 33-8.

3. Jenkins TP. Incisional hernia repairs : A mechanical approach. *Br J Surg* 1980; 67: 335-6.
4. Sharma AK, Bindra HS. Repair of recurrent and complicated incisional hernia. *Medical Journal Armed Forces India* 1995; 51: 107-9.
5. Berliner SD. Biomaterial in hernia repair. In: Nyhus LM, Condon RE, editors. *Hernia*. 3rd ed. Philadelphia: Lippincott, 1989; 541-58.
6. Bhutia WT, Chandra SS, Srinivasan K, et al. Factors predisposing to incisional hernia after laparotomy and influencing recurrence rates after different methods of repair - a prospective study of 220 patients. *Indian Journal of Surgery* 1993; 55: 535-43.
7. Usher PC. The repair of incisional and inguinal hernia. *Surg Gynaecol Obstet* 1970; 131: 525-30.
8. Langer S, Christiansen J. Long term results after incisional hernia repair. *Acta Chir Scand* 1985; 151: 217-9.
9. Bucknall TE, Ellis H. Abdominal wound closure: A comparison of monofilament nylon and polyglycolic acid. *Surgery* 1981; 89: 672-7.