Comparative Study of Repair of Incisional Hernia

Pages with reference to book, From 38 To 39

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Abstract

Repair of Incisional hernias was compared with four different techniques in 55 patients to determine the best method of repair with least chance of recurrence. The maximum Incidence of incisional hernia was seen in 30-39 years age group and was most frequently seen after gynaecological surgery (37 cases). Forty eight (88%) patients were operated in emergency by trainee surgeons. Most hernias occurred within one year after surgery and the herniation of lower mid line incision was more frequent (70.9% cases). History of wound infection of previous surgery was recorded in 45.5% of cases which appeared to be the important risk factor in causation of incisional hernia, It was also observed that simple repair of incisional hernia was associated with a high recurrence than that where synthetic mesh was used In repair where no recurrence was recorded (JPMA 44 :38, 1994).

Introduction

Incisional hernia testifies the lack of perfection of closure of abdominal wounds. With the evolution of modern surgery and rapid increase in abdominal operations there is an increase in the occurrence of incisional hernias which varies from surgeon to surgeon, therefore, the true incidence is never known. The reported incidence of incisional hernia varies from 0.5-10%[1-2]. Hypoproteinemia, vit-C deficiency and allergy to suture material[3-9] have been incriminated in the poor wound healing. It is often not possible to indicate the causative factor in an individual but the predisposing factors like wound infection, wound dehiscence and old age increase the chance of incisional hernia manifold[1,5-8]. A hernial recurrence is high when it is repaired with simple methods than that with prosthesis where no recurrence is reported[10]. The purpose of this study was the application of new recognised methods of repair and compare them to find out the best possible surgical procedure in terms of reduction of recurrence.

Patients and Methods

All average built patients with incisional hernias having defects of more than 5 cm, presenting to the surgical and gynae/obstetrical out-patient's department of Civil Hospital Karachi from January 1986 to February 1988, were included in the study. The patients were divided into four groups according to the type of repair. Group I included patients whose defects were treated with simple techniques like cattles and Keel's operation[11,12]. None of the recurrent incisional hernia was included in this group. In group lithe defects were treated with synthetic prosthesis like prolene and Mersiline mesh as Onlay graft[13]. Group III included only median and paramedian incisional hernias. Multiple layers of sac and rectus sheath were made to strengthen the repair[14]. In group N few old aged females with lower midline incisional hernias having lax abdomen were treated with Nuttals operation[15]. In all groups peritoneum and posterior rectus sheath were closed with vicryl suture and other layers with prolene. The prolene and mersilene mesh (ethicon) was used as synthetic prosthesis. Drain was kept in all cases from 2-5 days and broad spectrum antibiotic was used prophylactically for a week. All the patients were advised to use abdominal corsete post-operatively for 16 to 20 weeks. All patients were followed up for 3-18 months after surgery.

Results

There were total of 55 patients, 46 females and 9 males. Ages ranged from 12 to 63 years, with majority (22) falling in 30-39 years age group. Children below 12 years were not included. Fifty two (94.6%) patients presented with painful prominent sweffing and abdominaj discomfort. Of them 21(38%) also had history of obstructive episodes of abdominal colic and vomiting. Only one patient was brought in emergency with intestinal obstruction. From the history of previous surgery, discharge cards and operation records it was noticed that 37 patients were operated for gynae/obstetrical surgery and 18 operated for general surgery. Most of the patients with incisional hernias reported herniation within one year of previous surgery. History of wound infection of previous surgery was present in 25 patients. Other post-operative complications of previous surgery were respiratory tract infection and cough, abdominal distension, constipation and urinary retention. Only five patients had no history of complications of previous surgery (Table I).

Table I. Postoperative complications of previous surgery.

Complications	No. of patients	Percentage
1. Wound infection	25	45.5
2. Respiratory tract infection and cough	8	14.5
3. Abdominal distension	7	12.7
4. Constipation	6	11.0
5. Urinary retention	4	7.2
6. No complications	5	9.0

Hernia from lower midline incision was seen in 39 patients (70.9%) where as herniation of upper midline (11) and right paramedian (5) incision was not so frequent. Nine patients had recurrent incisional hernias. Out of fifty five patients with incisional hernia, 48 were operated in emergency by trainee surgeons and in remaining 7 patients, the records of previous surgery could not be traced.

Group I

Fourteen cases were operated by simple repair (controls). Recurrence was seen in 4 patients within 3-11 months after surgery.

Group II

Of 33 patients operated by using mesh as an Onlay graft to reinforce the repair, no recurrence was recorded Three patients complained of pricking sensations at site of surgery for 2-5 months. Chronic sinus developed in one case which settled after curettage.

Group III and III

Five patients were treated with Da Silva and 3 patients with Nuttals technique. No recurrence and minimum post-operative complications were recorded but both techniques have their limitations. Other post-operative complications in all groups are summarised in Table II.

Table II. Postoperative complications in all groups of repairs.

Complications	Group I	Group II	Group III	Group IV
1. Wound infection	14.2%	33%	20%	33%
2. Postopt. chest infection	7.1%	3%	-	-
3. Serum collection	7.1%	9%	-	-
4. Chronic sinus	-	3%	-	-
5. Recurrence	28.5%	-	-	-

Discussion

Incisional hernia usually starts as a symptomless partial disruption of the deeper layers of a laparotomy wound during the immediate or early post-operative period[16]. Factors involved in the causation of incisional hernias include general condition of the patient, technique of surgery and post-operative complications. Often it is not possible to indicate a single decisive factor in an individual case[17]. Wound infection is the commonest cause of incisional hernia whose frequency varies from 44% to 88%[5,6]. Similar figures (45%) were observed in this study. Old age and obesity also predispose to the development of incisional hernia[1,5]. Wound healing is slow in older patients. In this study 51% patients were in age group of 40-63 years and 24% were obese. Surgical repair of incisional hernia without prosthetic device is the preferred treatment. However, some large oval defects make it difficult to bring the fascial edges back in the parallel alignment or it may be closed under tension, the prosthetic mesh is the need of such cases[20]. The mesh can be implanted as Only graft or it may receive sub fascial extra peritoneal placement or it can be used intra peritonially. Recurrence of incisional hernia repair is variable in the hands of the different surgeons. The reported recurrence rate of incisional hernia is about 45% (average 20%)[19]. Use of prosthetic material should reduce the incidence but the frequency of the failure is still about 22.5%[19]. Many investigators have described that recurrence of repair with mesh were caused by inadequate bridging of the defect and new hernias appeared lateral to the mesh. In this study patients were followed for an average of one year. The results were satisfactory in all cases where a synthetic prosthetic was used. Recurrence was recorded in 28.5% cases of the control group where simple repair was used whereas no failure was noted in other groups. The present study indicates that synthetic prosthesis should be used as the treatment of choice in patients with incisional hernias.

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