

A Comparative Management of Incisional Hernia

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ABSTRACT

Background: Incisional hernia is an internal abdominal wall defect that develops after a previously closed laparotomy. The present study was conducted to compare management of incisional hernia. **Methods:** The present study was conducted on 86 patients of incisional hernia of both genders. Patients were divided into 2 groups based on technique used. Group I patients were treated with onlay repair and group II patients were treated with sublay repair. **Results:** Risk factors were wound infection in 12, smoking in 14, diabetes in 18 and obesity in 10 cases. The difference was significant ($P < 0.05$). Complications were seroma in 3 in group I and 1 in group II, wound dehiscence in 2 in group I and 1 in group II and recurrence in 1 in group I. The difference was significant ($P < 0.05$). **Conclusion:** Authors found that both techniques found to be effective in management of incisional hernia.

Keywords: Incisional hernia, Onlay, Wound dehiscence.

INTRODUCTION

Incisional hernia can be defined as an internal abdominal wall defect that develops after a previously closed laparotomy. It commonly develops as a result of disruption of tissue adjacent to the area of abdominal wall incision closure and also due to tension placed on the tissue as a result of suturing. In prospective studies with sufficient follow-up, up to 20% incidences of incisional hernia have been reported after laparotomy. Risk lies between 0.2-2% after laparoscopy. Recent studies have shown about two third of incisional hernia appear within first five years and at least another third appear 5-10 years after operation.^[1]

Most available studies on hernias are markedly skewed towards the assessment of the efficacy of these techniques with relatively fewer studies assessing other aspects of the subject of abdominal wall hernias.^[2] Management may include inlay and onlay repair. Open mesh repair are inlay where mesh is sutured between the fascial gap; onlay where mesh is placed on top of the fascia; sublay or the Rives-Stoppa technique where mesh is placed anterior to the posterior rectus sheath; or intraperitoneal underlay.^[3] Onlay repair peritoneum is closed after reduction of the viscera. The extraperitoneal onlay mesh repair is associated with a lower recurrence rate (10%) (Machairas, Misiakos, Liakakos and Karatzas)

However, onlay repair is technically easy to perform. With onlay repair, skin flaps must be created, which increase the risk of wound complications and mesh infection.^[4] The present study was conducted to compare management of incisional hernia.

MATERIALS AND METHODS

The present study was conducted in department of general surgery. It comprised of 86 patients of incisional hernia of both genders. Patients were informed regarding the study and written consent was taken. Ethical approval was obtained prior to the study.

Patient information such as name, age, gender etc. was recorded. Patients were divided into 2 groups based on technique used. Group I patients were treated with onlay repair and group II patients were treated with sublay repair. In both groups risk factors, clinical features and complications of surgery were noted. Results thus obtained were subjected to statistical analysis using chi-square test. P value < 0.05 was considered significant.

RESULTS

Table 1: Distribution of patients

Total- 86		
Gender	Male	Female
Number	48	38

[Table 1] shows that out of 86 patients, males were 48 and females were 38.

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[Table 2, Figure 1] shows that risk factors were wound infection in 12, smoking in 14, diabetes in 18 and obesity in 10 cases. The difference was significant ($P < 0.05$).

Table 2: Risk factors in patients

Risk factors	Number	P value
Wound infection	12	0.4
Smoking	14	
Diabetes	18	
Obesity	10	

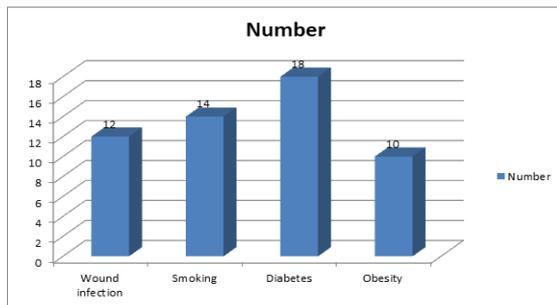


Figure 1: Risk factors in patients

Table 3: Complications in both groups

Complications	Group I	Group II	P value
Seroma	3	1	0.01
Wound dehiscence	2	1	
Recurrence	1	0	

[Table 3] shows that complications were seroma in 3 in group I and 1 in group II, wound dehiscence in 2 in group I and 1 in group II and recurrence in 1 in group I. The difference was significant ($P < 0.05$).

DISCUSSION

Based on national operative statistics, incisional hernias account for 15% to 20% of all abdominal wall hernias; umbilical and Epigastric hernias constitute 10% of hernias. Incisional hernias are twice as common in women as in men.^[5] There is no conclusive evidence demonstrating that the type of suture at the primary operation affects hernia formation.^[6] Patient-related factors linked to ventral hernia formation include obesity, older age, male gender, sleep apnea, emphysema, and prostatism. It has been proposed that the same factors associated with destruction of the collagen in the lung result in poor wound healing, with increased hernia formation. Wound infection has been linked to hernia formation.^[7]

Sublay repair is often considered more challenging and complex to perform. Dissection of this plane can risk damaging the muscles, blood supply, and nerves to the rectus abdominis. However, this space potentially protects the mesh from both superficial wound complications and intra peritoneal contents. In addition, it also allows for load bearing tissue in growth from two directions.^[8] The present study was conducted to compare management of incisional hernia.

In present study, out of 86 patients, males were 48 and females were 38. The risk factors were wound infection in 12, smoking in 14, diabetes in 18 and obesity in 10 cases. Kingsnorth et al,^[9] found that the highest number of cases presenting with inguinal hernia were over 45 years and it was more common in males which constituted 96.3 percent of cases. It is more common on right side and indirect hernia is more common than direct hernia. The major possible risk factors are smoking and strenuous work. The commonest presenting mode was swelling followed by swelling with pain. The mean time taken for TAPP was 91.85 ± 15.85 minutes and the median time was 87.50 minutes. There were no intra operative (neurovascular, visceral) complications in any of the patient and there was no conversion to open surgery.

We found that complications were seroma in 3 in group I and 1 in group II, wound dehiscence in 2 in group I and 1 in group II and recurrence in 1 in group I. Santora et al,^[10] conducted a study in which sixty patients were managed by onlay (group A) mesh repair and 60 patients were managed by sublay (group B) mesh repair. Data collected in both groups was made with regards to operation time, placement and duration needed for drain removal, wound infection, and recurrence rate. Follow up every three month for 24 months was done. The research outcomes, in sublay group Seroma formation was found in two patients (3.33%) while 12 (20%) in onlay group. Wound infection was found in one patient (1.66%) in sublay group while 6 (10%) in onlay group. No septic mesh was removed in sublay while one mesh was removed in onlay type. In onlay group recurrence was found in 4 patients (6.66%) while there is no recurrence in the sublay group. In conclusion sublay mesh hernioplasty is a better alternative to onlay mesh hernioplasty for all forms of ventral hernia cases.

CONCLUSION

Authors found that both techniques found to be effective in management of incisional hernia.

REFERENCES

1. Langer S, Christian J. Long term results after incisional hernia repair. Acta Chir Scand. 1985;151(3):217-9.
2. Kumar SJG, Kumar UK, Manangi M, Madhu KP, Arun BJ, Nagaraj N. Incisional hernia: incidence, clinical profile, riskfactors and prevention. Int Surg J 2016;3:1292-5.
3. Abrahamson J. Hernias. In: Zinner MJ, Schwartz SI, Ellis H, eds. Maingot's Abdominal Operations. 10th edition. York: Appleton & Lange; 1997: 479 – 580.
4. Read RC, Yoder G. Recent trends in the management of incisional herniation. Arch Surg. 1989;124:485-8.
5. Yahchouchy-Chouillard E, Aura T, Picone O, Etienne J-C, Fingerhut A. Incisional hernias. I. Related risk factors. Dig Surg. 2003;20(1):3-9.
6. Lamont PM, Ellis H. Incisional hernia in re-opened abdominal incisions: an overlooked risk factor. Br J Surg. 1988;75(4):374-6.

7. Manninen MJ, Lavonius M, Perhoniemi VJ Results of incisional hernia repair. A retrospective study of 172 unselected hernioplasties. Eur J Surg 1991;157:29-31.
8. Shah JB. Incisional hernias: a study of 50 cases. Ind J Surg.1977;39:353-6.
9. Kingsnorth AN, Shivarajasingham N, Warg S, Buttler M. Open mesh repair of incisional hernia with significant loss of domain. Ann R Coll Surg Eng. 2004;86(5):363-6.
10. Santora TA, Roslyn JJ. Incisional hernia. Surg Clin N Am.1993;73(3):557-70.

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