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Surgical study of Incisional hernia- Is it Still a Nightmare

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Abstract: *In this modern era, the Incisional hernia is still a surgeon's nightmare with a reported incidence of nearly 10% of patients undergoing abdominal operations. This study has been undertaken to assess the magnitude of Incisional Hernia and different modalities of open treatment in our setup. Our study comprises of 82 cases of incisional hernia admitted and treated in the Department of Surgery, Guntur Medical college, Guntur for a period from May 2014 to April 2017. History, clinical finding, investigations, operation findings, operative procedures and complications during the stay in hospital are documented and recorded in a proforma. Patients underwent incisional hernia repair based on the size of the defect. Patients are followed up for immediate postoperative complications. Incisional hernia is found to be more common in females with infra umbilical region is the most common presentation. And nearly 50%of incisional hernia developed with in the first two years of previous surgery and this risk is most commonly attributed to postoperative wound infection. Mesh repairs are still holds useful in treating incisional hernia repair.*

Keywords: *Incisional hernia, Anatomical repair, Mesh repair*

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I. Introduction

After the development of modern surgery and increased survival rates in the latter part of the 20th century posted a strange unforeseen problem of raising incisional hernia rates in survived patients. Considering the success in contemporary modern surgery, arguably progress in incisional hernia surgery is very little and needs lots of improvement.

An incisional hernia is defined by Pollock and his colleagues as "a bulge visible and palpable when the patient is standing and often requiring support or repair". The culprit in the development of Incisional hernia is impaired wound healing. The two leading causes for improper wound healing, apart from patient-related risk factors are improper surgical technique and sepsis. Patient-related risk factors include Elderly patients, female gender, obesity, poor economic status who undertake substantial works immediately after discharge. Patient-related risk factors include multiparty, chronic bronchitis, hypoproteinemia, atherosclerosis, anaemia, diabetes, asthma, smoking, malignancy, etc. The poor surgical technique involves practising incorrect anatomical incisions, single-layer mass closure techniques, inappropriate suture material, wide suturing, etc. Raised intra-abdominal pressure in the immediate postoperative phase, sec to postoperative ileus, coughing, vomiting, and mechanical ventilation increases the risk of incisional hernias. Sepsis results in poor collagen formation and impaired wound healing resulting in incisional hernia. All these risk factors singly or in various combinations results in failure of satisfactory wound healing and postoperative hernia.

History suggests surgical treatment of incisional hernia began in the second half of the 1800s and evolved along three lines (1) Simple Laparoplasty. (2) Organic Auto or Heteroplasty, and (3) Alloplasty. The evolution of surgical techniques was mostly the outcome of knowledge of the incisional hernia physiopathology, with specific attention given to the traction exerted on the linea alba by the large muscles of the abdomen. Simple Laparoplasty techniques include transcutaneous suturing, aponeurotic suturing, layer suturing, on mass suturing of the defect. The most common and most frequently adopted autoplasty is still the one described by Mayo, which is based on the overlapping of the muscle-aponeurosis planes, the commonly defined "waistcoat" plasty. Later improvements include use of aponeurosis, skin, cartilage, periosteum, muscle, decalcified bone, and meninges to strengthen the defect. In all of these cases, there is a more or less abundant production of reactive fibrous tissue that constitutes a robust protective framework.

The Gold, Aluminium, Brass, Tantalum wires which are documented in treating incisional hernia gives way to Plastic. Prosthesis like Nylon, Dacron, Teflon, Ivalon, velour-lined silicone, ePTFE, Marlex, Merselinein etc. modern era. Recently the use of Biologic meshes are based on acellular dermal matrices from human,

porcine, and fetal bovine sources are under study. The biologic meshes are more resistant to infection than their synthetic predecessors and are more appropriate for use in infected or contaminated fields.

II. Methods

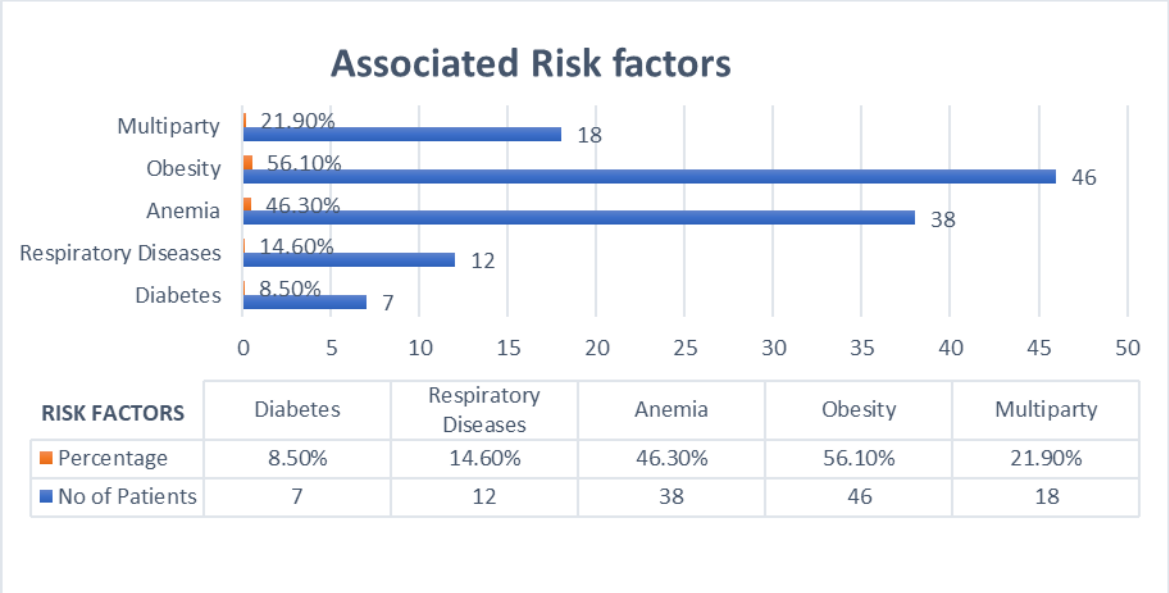
Our study comprises of 82 cases of incisional hernia admitted and treated in the Department of Surgery, Guntur Medical college, Guntur for a period from May 2014 to April 2017. A detailed history is taken. The most common symptom is swelling, which is progressively increasing in size during coughing, sneezing, and standing up. Some patients complain of pain over the scar. Though Incisional hernia presents no difficulty in diagnosis, to detect significant variation in the degrees of herniation, detailed clinical examination is conducted with the patient in standing and supine positions to evaluate the anterior abdominal wall, and to detect associated etiological factors and precipitating factors.

All patients subjected to ultrasound examination and in 7 cases CT scan performed to evaluate the hernia. Complete surgical profile done, preanaesthetic checkup conducted, and surgery performed after treating the associated risk factors if any.

The management of incisional hernia is primarily surgical. Primary repair of incisional hernias is done when the defect is small (=/< 2 cm in diameter) and there is viable surrounding tissue, and in cases in which the hernia was clearly a result of Larger defects (>2cm in diameter) which are having a high recurrence rate if closed primarily are repaired with a prosthesis. Hernias which are complicated especially by irreducibility are large and remains outside the peritoneal cavity for some time, and these hernias require careful surgical intervention and repair. The synthetic meshes frequently incorporate polypropylene meshes, as these are macroporous and allow for ingrowth of native tissue into the mesh, leading to better incorporation. Laparoscopic hernia repairs are not taken into consideration as these are not part of our study.

III. Results And Discussion

During the study period, consecutive 82 patients of incisional hernia undergoing surgical repair are included. The maximum number of incisional hernia cases belongs to the middle age group of 20 to 50 (i.e. 58 out of 82 cases). The incisional hernia is found to be more common in females. Out of 82 cases, 70 are females, and 12 were males. The laxity of abdominal muscles due to multiple pregnancies and an increased number of lower abdominal incisions in females are the main contributing factors. Forty percent of patients in this series are manual workers or labourers. Ellis et al. reported an incidence of 64.6% female population in their study of 383 patients. The most characteristic symptom is swelling without any other apparent symptoms (74 cases) and associated with pain in 21 cases. The swelling is visible on standing or exertion. Multiparty, obesity and anaemia, are the most common predisposing factors. Chronic Bronchitis, asthma, Diabetes are also associated with Incisional hernia. Some patients are presented with more than one risk factors. The distribution of risk factors is as follows.



RISK FACTORS	Diabetes	Respiratory Diseases	Anemia	Obesity	Multiparty
Percentage	8.50%	14.60%	46.30%	56.10%	21.90%
No of Patients	7	12	38	46	18

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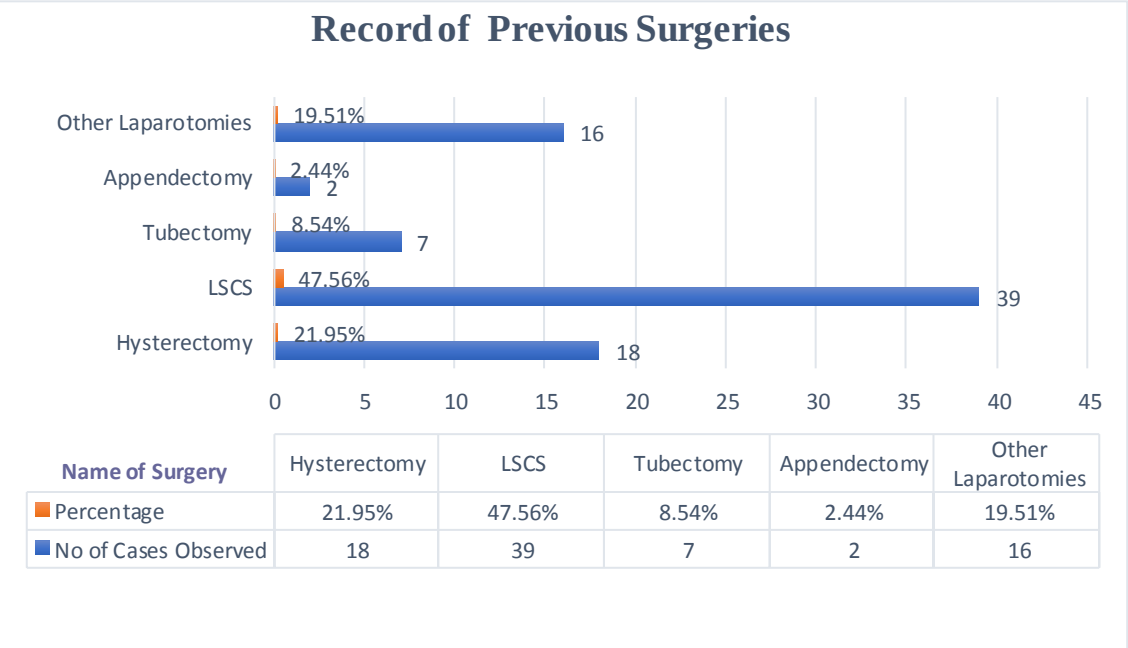
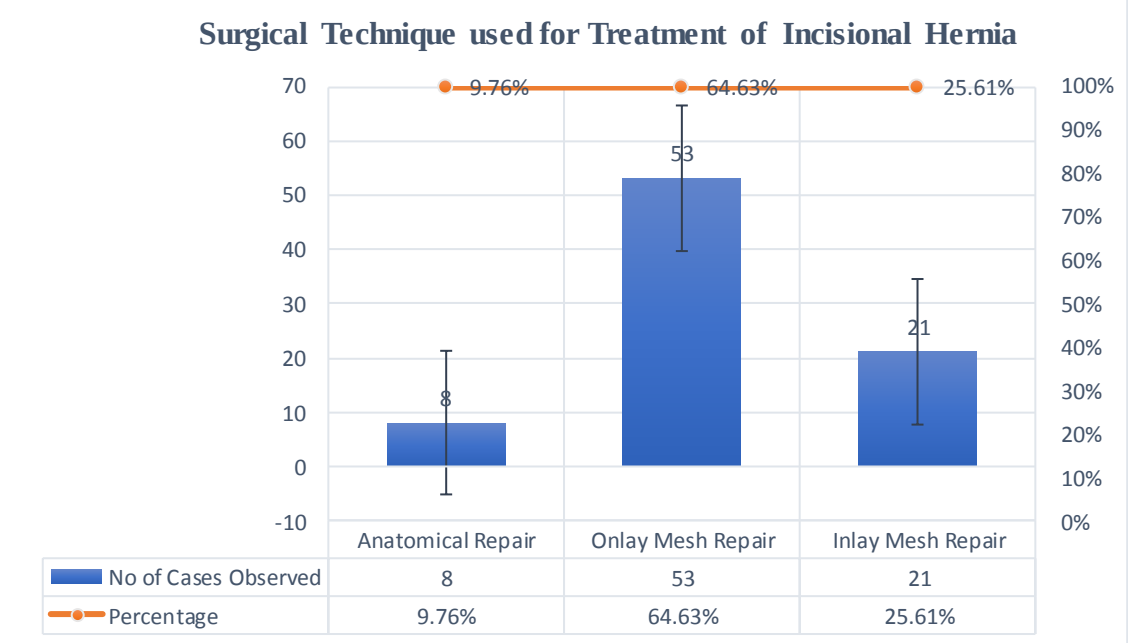
Gynaecological conditions are the major cause for surgeries (82%), and there is a preponderance of infraumbilical midline incision (86%) in the present studies.



Name of Surgery	Hysterectomy	LSCS	Tubectomy	Appendectomy	Other Laparotomies
Percentage	21.95%	47.56%	8.54%	2.44%	19.51%
No of Cases Observed	18	39	7	2	16

In our study, 20% of incisional hernias appeared within one year of previous surgery. And majority cases occurred within five years of primary operation. Wound infection after previous surgery puts the patients at increased risk for incisional hernia. In the present study, Post-Operative wound infection after preceding operative procedures, is observed in 32 cases and represents a significant share. Majority of incisional hernia on Ultrasound shows the size of a defect is 5-8 cms. Out of 82 cases, 8 cases are repaired by anatomical repair, and others are repaired by mesh repair by both onlay (53 cases) and inlay (21 Cases) methods.



	Anatomical Repair	Onlay Mesh Repair	Inlay Mesh Repair
No of Cases Observed	8	53	21
Percentage	9.76%	64.63%	25.61%

Patients are followed for one year. Out of 82, 8 cases developed wound infection,11 cases developed seroma formation and two cases re repaired following recurrence. There was no surgery-related mortality in this study.

Postoperative complications of incisional hernia repair are tabulated as follows

Complication	Onlay repair	Inlay repair
Wound Infection	6 (11.3%)	2(9.5%)
Seroma	8(15.1%)	3(14.3%)
Wound Dehiscence	4 (0.8%)	1(4.8%)
Recurrence	2(0.4%)	0

In cocharine database, two trials compared the onlay (prefascial) vs the inlay (retrorectus) technique and found no difference in outcome except for a shorter operative time for the onlay method indicating its ease of use. A quasi-randomized study allocating patients alternately to either an inlay or an onlay arm for mesh plasty in ventral hernias, excluding patients with defects higher than 10 cm found a more favourable outcome for the onlay technique with complications recurring in 22.5% (inlay) vs 15% (onlay) with similar wound complication. The hospital stay was identical, and there were no recurrences.

IV. Conclusion

An incisional hernia is a perfect example of a "surgeon-dependent variable." and its incidence has increased with each increment of abdominal surgical intervention. A choice of operative procedure is critical. Proper surgical technique and reducing wound infection reduces the occurrence of Incisional hernia. Depending on the clinical scenario, the surgery and a logical prosthetic choice that is appropriate for the technique has to be chosen. These measures will provide both the patient and the surgeon with the best possible outcomes.

References

[1]. Norman S. Williams MS FRCS FMed Sci, Christopher J.K. Bulstrode MCh FRCS(T&O), P. Ronan O'Connell, MD FRCSI, FRCPS Glas. Bailey & Love's Short Practice of Surgery 26e
[2]. Andrew N. Kingsnorth • Karl A. LeBlanc. Management of Abdominal Hernias 4e
[3]. Feliciano Crovella • Giovanni Bartone • Landino Fei. Incisional Hernia
[4]. Millikan KW, Baptisa M, Amin B, et al. Intraperitoneal underlay ventral hernia repair utilizing bilayer ePTFE and polypropylene mesh. Am Surg 2003;69:258
[5]. McLanahan D, King LT, Weems C, et al. Retrorectus prosthetic mesh repair of midline abdominal hernia. Am J Surg 1997;173:445 [PubMed: 9168086]
[6]. Luijendijk RW, Hop WC, van den Tol MP, et al. A comparison of suture repair with mesh repair for incisional hernia. N Engl J Med 2000;343:292
[7]. Regnard JF, Hay JM, Rea S. Ventral incisional hernias: incidence, date of recurrence, localization, and risk factors. Ital J Surg Sci 1988;3:259
[8]. Open surgical procedures for incisional hernias. Cochrane Database Syst Rev. 2008;(3): CD006438.
[9]. Lauscher JC, Rieck S, Loh JC, Grone J, Buhr HJ, Ritz JP. Oligosymptomatic vs. symptomatic incisional hernias-who bene fits from open repair? Langenbecks Arch Surg. 2011;396(2):179–85.

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