

Clinical Profile and Surgical Management of Incisional Hernias: A Retrospective Study

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Article History	Abstract
Received: 06 June 2023 Revised: 05 Sept 2023 Accepted: 13 Oct 2023	Background: An iatrogenic hernia known as an incisional hernia develops at the site of prior surgical incisions and poses therapeutic difficulties. For prevention and therapy, it is essential to comprehend their clinical presentation and management. The clinical characteristics and treatment of incisional hernias at a tertiary care facility are reviewed in this study. Methods: At the Department of General Surgery, a retrospective study was done. Demographic information, clinical presentation, surgical history, hernia features, post-operative problems, and comorbidities were gathered from 60 patients who underwent incisional hernia surgery. Results: 60% of the patients were female, and the age ranges of 35 to 45 and 56 to 65 were the most common. 15% of patients reported pain prior to surgery. Lower segment cesarean sections (38.33%) and Pfannenstiel incisions (45%) were the most frequent prior surgeries. 83.33% of patients had infraumbilical hernias, and 11.67% had post-operative surgical site infections. A significant comorbidity was obesity. The chosen surgical technique was sublay (preperitoneal) meshplasty. Conclusion: Infraumbilical incisions, in particular, showed a female predominance in incisional hernias. Comorbidities, especially obesity, were associated with the development of hernias. Strenuous infection control procedures are required to prevent post-operative surgical site infections. Commonly employed is sublay meshplasty. The prevention and treatment of incisional hernias are influenced by these findings.
CC License CC-BY-NC-SA 4.0	Keywords: Incisional hernia, Clinical presentation, Surgical management, comorbidities, Retrospective study

1. Introduction

An important side effect of abdominal surgery is an incisional hernia, which is described as a hernia developing at the location of a prior surgical incision [1]. These surgically-induced hernias are classified as iatrogenic and come with a variety of clinical difficulties and therapeutic complexity. For this ailment to be prevented and treated, it is crucial to comprehend their clinical presentation and efficient management techniques.

A wide variety of clinical symptoms may be present in patients with incisional hernias. Some people don't exhibit any symptoms, but others report discomfort, pain, or swelling where the incision was made. These symptoms may call for surgical intervention and have a severe negative influence on the patient's quality of life [2-5]. Early intervention and prevention of incisional hernias depend heavily on the identification of risk factors.

The selection of an operating method for an incisional hernia repair is complex and should be based on the unique patient features. Numerous surgical methods, including as open and laparoscopic procedures, have been used. Due to mesh reinforcement's positive results in terms of lowering recurrence rates, it has also become a common procedure in hernia repair [3-10].

Incisional hernia surgery has been performed on a sizable number of patients in the Department of General Surgery at the current tertiary care center. This retrospective study examines the clinical profile and treatment of incisional hernias at our institution in an effort to advance clinical practices and contribute to the body of knowledge. We want to offer useful insights that may guide better approaches to the prevention and management of incisional hernias by examining patient demographics, clinical presentations, surgical techniques, and post-operative outcomes.

2. Materials And Methods

Study Design: This retrospective study was created to look at the clinical characteristics and treatment of incisional hernias at the Department of General Surgery of the tertiary care center. Data on patients who underwent surgery for an incisional hernia throughout the study period, which ran from 2015-2022 were gathered through a careful review of electronic medical records. The institutional ethics committee gave its approval to this study, guaranteeing that it complied with ethical guidelines.

Data Gathering: To compile essential data regarding the patients and their incisional hernias, a thorough data gathering process was started. The following factors were methodically noted:

1. Patient demographics: Patient information, such as age and gender, was properly recorded.
2. Clinical Presentation: It was found that there were pre-operative symptoms including pain and discomfort present. Any comorbidities that the patients disclosed were also noted.
3. Surgical Past: Details about the kind of earlier procedure that resulted in the development of the incisional hernia were gathered. Additionally recorded were surgical specifics including the kind of incision made and the precise surgical site.
4. Incisional hernia characteristics: The incisional hernia's location (such as infraumbilical or supraumbilical) was carefully noted and noted.
5. Post-operative Complications: Any complications following surgery, with an emphasis on surgical site infections (SSI), were carefully tracked and recorded.

Data analysis: Using the proper software SPSS ver 25, statistical analysis of the gathered data was carried out. To summarize patient demographics, clinical manifestations, and surgical information, descriptive statistics were used. To give a comprehensive picture of the research population, frequencies, means, and standard deviations were computed when needed.

3. Results and Discussion

Table 1: The majority (60%) of the 60 patients who underwent surgery for incisional hernias were female. Two age groups stand out in the age distribution: 55–64 years old and 35–44 years old. With 28 patients, obesity is the comorbidity that affects these patients the most frequently.

Table 2: The most frequent previous operation connected to incisional hernias was a lower segment cesarean section. The infraumbilical region saw the bulk of hernias. Preoperative pain was reported by about 15% of patients.

Table 3 observations: 11.67% of patients experienced post-operative SSI. The most often used operative treatment technique was sublay (preperitoneal) meshplasty.

Table 1: Demographic Characteristics of Incisional Hernia Patients

Demographic Characteristic	Number of Patients
Total Patients	60
Gender (Male)	24
Gender (Female)	36
Age 25-34 years	5
Age 35-44 years	18
Age 45-54 years	10
Age 55-64 years	15
Age 65+ years	12
Comorbidity: Obesity	28

Comorbidity: Diabetes	10
Comorbidity: Hypertension	16

Table 2: Characteristics of Incisional Hernias

Hernia Characteristic	Number of Patients
Type of Previous Surgery	
- Lower Segment Cesarean Section	23
- Appendectomy	8
- Cholecystectomy	6
- Hysterectomy	9
Surgical Site	
- Infraumbilical	50
- Supraumbilical	10
Pre-operative Pain	9 (15%)

Table 3: Post-operative Outcomes and Management

Post-operative Outcome	Number of Patients
Post-operative Surgical Site Infections (SSI)	7 (11.67%)
Operative Management Technique	
- Sublay (Preperitoneal) Meshplasty	32
- Onlay (Intraperitoneal) Meshplasty	12
- Non-Mesh Repair	16

The important findings of this study on incisional hernias at the tertiary care center are thoroughly examined in the discussion section. It provides details on how these findings might affect clinical practice and future research.

Gender discrepancy: This study's gender discrepancy, which showed that female patients made up 60% of the study's participants, is consistent with the body of knowledge on incisional hernias [1,11-13]. This gender bias may be caused by a variety of variables, such as changes in wound healing, hormonal impacts, and differences in abdominal structure [2]. For individualized patient care, it is critical to acknowledge this gender difference. The underlying causes of this gender prejudice should be the subject of future study in order to create gender-specific preventative and treatment methods.

Age Distribution: This study's bimodal age distribution, which peaked in the 35–44 and 55–64 age categories, is a result of the cumulative impact of earlier operations over time. It emphasizes the idea that incisional hernias frequently appear years after the first operation, and that risk rises with patient age [13]. Notably, the two age ranges are within the range in which other abdominal operations, such as cesarean sections and hysterectomies, are frequently carried out. Clinicians should keep a close eye on patients who have had these surgeries, especially as they age.

Symptomatic Presentation: The impact of incisional hernias on patients' wellbeing is shown by the fact that 15% of patients reported experiencing pain or discomfort prior to surgery. The quality of life and everyday activities are greatly impacted by these symptoms. This discovery highlights the significance of early detection and prompt surgical surgery to reduce patient suffering and the chance of consequences. Clinicians should be cautious when assessing patients who have had abdominal surgery in the past, especially if they complain of discomfort or other symptoms.

History of Surgery and Type of Incision: This study's findings about the relationship between lower segment cesarean sections (LSCS) and incisional hernias are in line with earlier studies [14]. Notably, the most frequent surgical site connected with hernias was the Pfannenstiel incision, which is routinely utilized for LSCS. This shows that hernia formation in LSCS may be influenced by factors relating to surgical technique, wound healing, or postoperative care. In order to determine these parameters and establish best practices in LSCS to lower the frequency of incisional hernias, more research is necessary.

Hernia Location: Surgical planning and technique are affected by the high occurrence of incisional hernias in the infraumbilical region that was found in this study. Various abdominal surgeries, such as appendectomies, cholecystectomies, and gynecological procedures, frequently use infraumbilical incisions. When performing procedures in this area, surgeons should use caution and take into account methods to reduce the possibility of hernia formation, such as effective wound closure and the use of mesh reinforcement. The observed propensity for a particular location highlights the importance of postoperative surveillance and preventative measures for infraumbilical hernias [11-15].

Surgical site infections (SSI) were noted in 11.67% of cases following surgery, emphasizing a potentially dangerous postoperative complication. In addition to lengthening hospital stays, SSIs raise healthcare expenses and are uncomfortable for patients. The study's relatively high SSI rate highlights the value of strict infection control procedures after hernia repair. To reduce the risk of SSIs, standard procedures should include preoperative antibiotic prophylaxis, aseptic surgical techniques, and rigorous postoperative wound care.

Comorbidities and Obesity: The substantial connection between incisional hernias and obesity found in this study supports previous research relating obesity to the development of hernias [15]. Due to higher complication and recurrence rates, obesity presents additional difficulties during hernia repair. To lower the chance of developing a hernia, clinicians should give obese patients extensive preoperative examinations and therapies, including weight management techniques. Furthermore, to achieve the best results in certain situations, customized surgical methods could be required.

Administrative Control: In this study, sublay (preperitoneal) meshplasty was shown to be the most often used surgical management approach. Due to its proven ability to lower recurrence rates, this strategy, which involves mesh reinforcement in the preperitoneal area, fits with current hernia repair trends [6,10,12,13]. The preference for mesh reinforcement highlights how crucial mesh usage is for hernia repair. Future studies should examine the long-term effects and issues connected to various mesh kinds and construction methods.

4. Conclusion

The clinical characterization and treatment of incisional hernias are crucial insights provided by this retrospective study at tertiary care center. The research shows the importance of taking into account factors including gender, age distribution, clinical presentation, surgery history, and the part comorbidities play in hernia formation. These findings lay the groundwork for enhanced clinical procedures and highlight the need for additional study to improve incisional hernia prevention and management techniques.

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