

**Emergency Surgical Management in Obstructed Groin Hernia****Ferkhand Mohi Ud Din<sup>1</sup>, Jaiparam Singh Wazir<sup>2</sup>, Irshad Ahmad Kumar<sup>3</sup>, Salma Manzoor<sup>4</sup>, Irfan Nazir Mir<sup>5</sup>, Khurshid Ahmad Ganaie<sup>6</sup>**<sup>1,2,3,4</sup>Senior Resident, Department of Surgery, Government Medical College Srinagar<sup>5,6</sup>Assistant Professor, Department of Surgery, Government Medical College Srinagar

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Conflict of interest: Nil

**Abstract**

This retrospective case series aimed to investigate the trends of obstructed groin hernias in a tertiary care hospital setting. Over a two-year period, 19 patients with incarcerated and obstructed inguinal hernias were included in the study. The majority of patients were males (94.7%), with a single female patient presenting with a femoral hernia. The age range of the patients was 10 to 80 years, with the highest prevalence in the 60-69 age group (31.6%). Right-sided inguinal hernias were the most common (89.5%), and the hernial sac contents were predominantly bowel (78.9%), followed by omentum (10.5%), appendix (5.3%), and urinary bladder (5.3%). The open technique with a groin incision was used in 84.2% of patients, with Bassini's repair being the primary method of repair. One patient required resection and anastomosis due to bowel gangrene. Postoperative complications included wound infection (1 case) and recurrence (1 case) during a six-month follow-up period. There was no postoperative 30-day mortality. The study concludes that obstructed groin hernias predominantly affect older patients, and open techniques with Bassini's repair are commonly employed in emergency settings.

**Keywords:** Obstructed hernia, Small bowel, inguinal hernia, Bassini's repair.

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**Introduction**

The most prevalent hernia of the anterior abdominal wall is the inguinal hernia, accounting for 75% of cases, with a lifetime surgical risk of 27% in males and 3% in females. [1] Inguinal hernias are observed in approximately 80% of males, whereas femoral hernias are present in 85% of females. [2] The risk factors for inguinal hernia, whether congenital or acquired, include an inherent weakness of the genetic fascia due to altered hydroxylation of hydroxyproline in type I collagen, and an acquired weakness of fascia caused by steroid use, smoking, or increased abdominal pressure. [3]

Due to the weakening of the anterior abdominal wall associated with aging and conditions that increase abdominal pressure, the elderly population predominantly presents with external hernias. Hernias affect approximately 5% of the adult population, with complications such as strangulation or obstruction occurring in 5% of inguinal and 32% of femoral hernias. Elective surgery is preferred, as hernias predominantly affect older individuals who often have comorbid conditions that increase morbidity and mortality in emergency settings. Emergency hernia repairs increase exponentially with age, particularly in

individuals over 50 years. Hernias account for 20% of small bowel obstructions, with incarcerated inguinal hernia being the second most common cause of bowel obstruction after adhesions, and 30% of cases require resection.[4-6] This study was conducted with the aim of understanding the trends of obstructed groin hernia in our setting.

**Material and Methods**

This study presents a retrospective case series conducted at a tertiary care hospital. A total of 28 patients presented with incarcerated and obstructed inguinal hernia to our emergency department. Of these, 9 patients underwent successful manual reduction of the hernia and were subsequently observed for 24 hours for any signs of peritonitis. During this observation period, patients were kept nil per oral to prevent any delay in intervention if required.

All 9 patients were discharged following the observation period and were scheduled for elective surgery. The remaining 19 patients, whose hernias could not be reduced and who exhibited clear signs of obstruction, were included in this study. The study was conducted over a two-year period from June 2023 to May 2025. Demographic and

perioperative data were collected and analyzed using SPSS version 20.

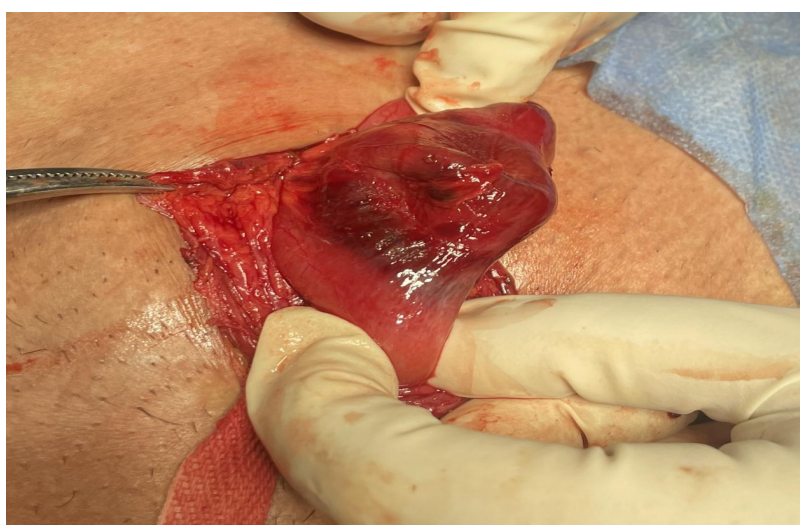
## Results

A total of 19 patients were included in the study. All patients, except one, were male and presented with inguinal hernia, while the sole female patient had a femoral hernia. The age range of the patients was from 10 to 80 years. Most of cases had Right sided (17) inguinal hernia and the contents of the hernial sac were most commonly bowel (15 cases), followed by omentum (2 cases), appendix (1 case), and urinary bladder (1 case). One patient required resection and anastomosis, as he presented to the emergency department two days after the onset of symptoms and was found to have gangrene upon opening the sac. All patients were approached through the groin on sac, except for two who were

approached via a paramedian incision. In one case, the initial approach through the groin was altered to a lower midline incision for resection and anastomosis upon discovering gangrenous bowel. All patients underwent repair using the Bassini's method, except for one with acute appendicitis, where only the deep inguinal ring was closed after thorough irrigation of the canal. The patient with urinary bladder as content had injury of urinary bladder on dissection. The urinary bladder was repaired and Foley's catheter was placed for 2 weeks. All patients were discharged on 2<sup>nd</sup> postoperative day except patient who had resection anastomosis who got discharged on 7<sup>th</sup> postoperative day. One patient developed wound infection and one patient experienced recurrence during a six-month follow-up period. There was no postoperative 30 day mortality.

**Table 1: Descriptive Data of the Study**

| Parameter  | Variability         | Number | Percentage |
|------------|---------------------|--------|------------|
| Age Group  | <50                 | 1      | 5.3        |
|            | 50-59               | 4      | 21.1       |
|            | 60-69               | 6      | 31.6       |
|            | 70-79               | 5      | 26.3       |
|            | ≥80                 | 3      | 15.7       |
| Gender     | Male                | 18     | 94.7       |
|            | Female              | 1      | 5.3        |
| Approach   | Groin               | 16     | 84.2       |
|            | Paramedian          | 2      | 10.5       |
|            | Groin+Lower Midline | 1      | 5.3        |
| Contents   | Bowel               | 15     | 78.9       |
|            | Omentum             | 2      | 10.5       |
|            | Bladder             | 1      | 5.3        |
|            | Appendix            | 1      | 5.3        |
| Hernia     | Indirect Inguinal   | 17     | 89.5       |
|            | Direct Inguinal     | 1      | 5.3        |
|            | Femoral             | 1      | 5.3        |
| Laterality | Right               | 17     | 89.5       |
|            | Left                | 2      | 10.5       |



**Figure 1: Showing the Obstructed Inguinal hernia with Small bowel as content**

## Discussion

Hernias can be classified into two types based on their relationship with the Hesselbach's triangle: direct hernias, which protrude directly through the triangle, and indirect hernias, which protrude through the deep inguinal ring or lateral to the Hesselbach's triangle. Indirect inguinal hernias are more prevalent than direct inguinal hernias [3], a finding consistent with our study, where 89.5% of inguinal hernias were identified as indirect. Regarding laterality, right inguinal hernias are the most common, while femoral hernias are the least common but have a higher risk of strangulation. In our study, 89.5% of hernias were right-sided, and 5.3% (1 case) were femoral, which was obstructed and that too in a female, corroborating earlier studies [5].

In our study, apart from a young patient aged 10, the majority of patients were over 50 years old, with 31.6% in the 60-69 age group and 26.3% in the 70-79 age group, aligning with previous literature [4]. This study confirms that older patients are more likely to present with obstructed groin hernias in emergency settings. This may be attributed to the increased incidence of hernias with age and delays in elective treatment due to comorbid conditions. We approached the obstructed hernia using the open technique with a groin incision in over 84.2% of patients. In one case, a lower midline incision was necessary for resection anastomosis, while in two cases (10.5%), a paramedian incision was used. The open technique is a well-documented and established method in emergency settings, even in this era of minimally invasive surgery. Almost all patients underwent Bassini's repair, as biological mesh was unavailable, and this method is well-established in emergency settings [7].

The hernia sac predominantly contained bowel contents (78.9%), followed by omentum (10.5%), and then the urinary bladder and appendix, each at 5.3%. One patient had bowel gangrene, necessitating resection anastomosis. During a six-month follow-up, one patient developed a wound infection, and another experienced recurrence. There was no postoperative 30-day mortality, and these findings are consistent with previous literature [8]. The small sample size was a limitation of this study.

## Conclusion

This study concludes that obstructed groin hernias predominantly affect older patients, with open techniques and Bassini's repair being commonly employed in emergency settings.

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