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A PROSPECTIVE OBSERVATIONAL STUDY TO EVALUATE FACTORS ASSOCIATED WITH INGUINAL HERNIA AND ITS MANAGEMENT IN A TERTIARY CARE TEACHING HOSPITAL

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ABSTRACT

Inguinal hernia is the protrusion of abdominal contents through a weak spot near the inguinal canal, commonly affecting males. The study aimed to evaluate factors associated with inguinal hernia, its clinical profile, demographic characteristics, complications, treatment approaches, and prognostic implications. A prospective observational study was conducted for six months at a tertiary care hospital. The study analysed 120 cases, revealing a higher prevalence in males (80.83%) and indirect hernias (60.83%). The findings highlight key risk factors, treatment preferences, and potential preventive measures to improve patient outcomes.

KEYWORDS: Inguinal Hernia, Lichtenstein Repair, TAPP, TEP, Should ice Repair.

INTRODUCTION

Inguinal hernia is a common surgical condition that occurs when abdominal contents protrude through a weakened area in the lower abdominal wall, particularly near the inguinal canal [1]. It is classified into direct and indirect types, with indirect hernias occurring due to a persistent patent processes vaginalis and direct hernias resulting from abdominal wall weakness.[2,3] Inguinal hernias are predominantly seen in males due to the anatomical structure of the inguinal canal.[4]

Several factors contribute to the development of inguinal hernias, including congenital predisposition, increased intra-abdominal pressure, aging, obesity, chronic constipation, heavy lifting, and prolonged standing.[5] Smoking and

connective tissue disorders have also been implicated as risk factors. The condition can lead to complications such as incarceration, strangulation, and bowel obstruction if left untreated.[6]

The gold standard treatment for inguinal hernia is surgical repair, which can be performed using open or laparoscopic techniques. Lichtenstein mesh repair is widely preferred for its low recurrence rates.[7,8] Laparoscopic approaches, including Transabdominal Preperitoneal (TAPP) and Totally Extra peritoneal (TEP) techniques, offer shorter recovery times and reduced post-operative pain.[9,10]

This study aims to evaluate the epidemiological trends, clinical characteristics, and treatment strategies for inguinal hernia in a tertiary care teaching hospital. By analysing demographic data, risk factors, and surgical outcomes, this study seeks to provide insights into improving patient management and reducing recurrence rates.

MATERIALS AND METHODS

A prospective observational study was conducted over six months (2024–2025) at Andhra Pradesh Vaidya Vihaan Paris had Hospital, Proddatur. A structured proforma was used for data collection, including demographic details, clinical history, risk factors, and type of hernia, complications, and treatment approach.

Patients were diagnosed based on clinical evaluation and imaging studies such as ultrasonography and contrast-enhanced CT scans. Treatment modalities included pharmacological management for symptom relief and surgical repair using open or laparoscopic techniques. The collected data were analysed to identify patterns and associations

RESULTS

The study analysed 120 cases of inguinal hernia. The majority of patients (61.6%) were aged 40–59 years, and 80.83% were male. Direct inguinal hernia was more prevalent (60.83%) than indirect hernia (39.17%).

Heavy weight lifting (28.33%) was identified as the leading risk factor, followed by prolonged standing or sitting (19.6%) and chronic constipation (17.5%). Recurrence was observed in 8.3% of cases, and 7.5% of patients experienced strangulation. Open hernia repair was the preferred surgical approach, performed in 79.16% of cases, with mesh placement in 84.16% of patients.

In inguinal hernia management

Results

1. **Age**

S. NO	AGE	NO. OF PATIENTS	PERCENTAGE
1.	0 – 19 YEARS	10	8.3%
2.	20 – 39 YEARS	9	7.5%
3.	40 – 59 YEARS	74	61.6%
4.	60 – 79 YEARS	27	22.5%
5.	TOTAL	120	100%

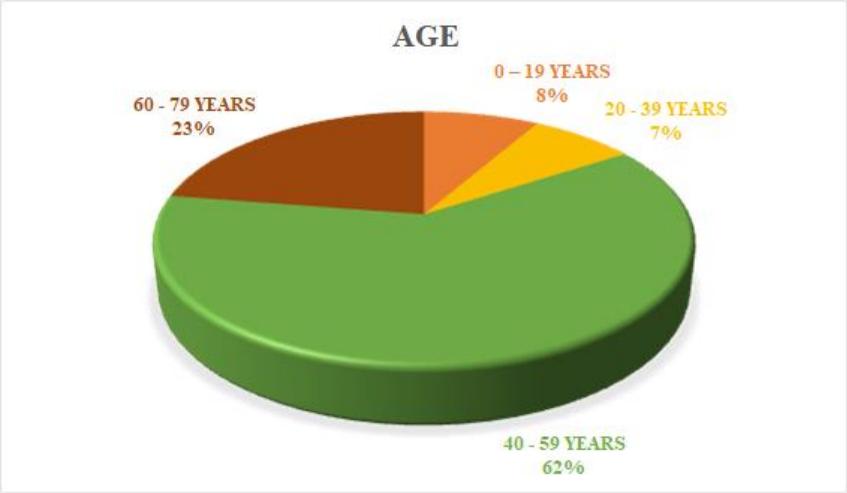

Figure No. 1: Graphical representation of age wise distribution.

2. Gender

S. NO.	GENDER	NO. OF PATIENTS	PERCENTAGE
1.	MALE	97	80.83%
2.	FEMALE	23	19.17%
3.	TOTAL	120	100%

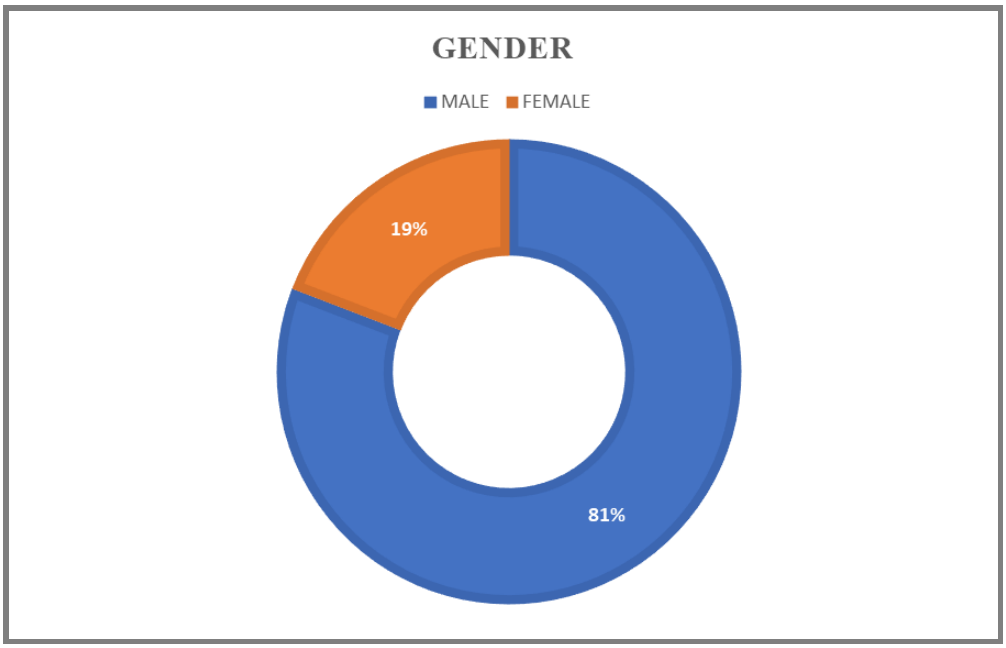

Figure No. 2: Graphical representation of gender wise distribution.

3. TYPE OF INGUINAL HERNIA

S. NO	TYPE	NO. OF PATIENTS	PERCENTAGE
1.	DIRECT	73	60.83
2.	INDIRECT	47	39.17
3.	TOTAL	120	100%

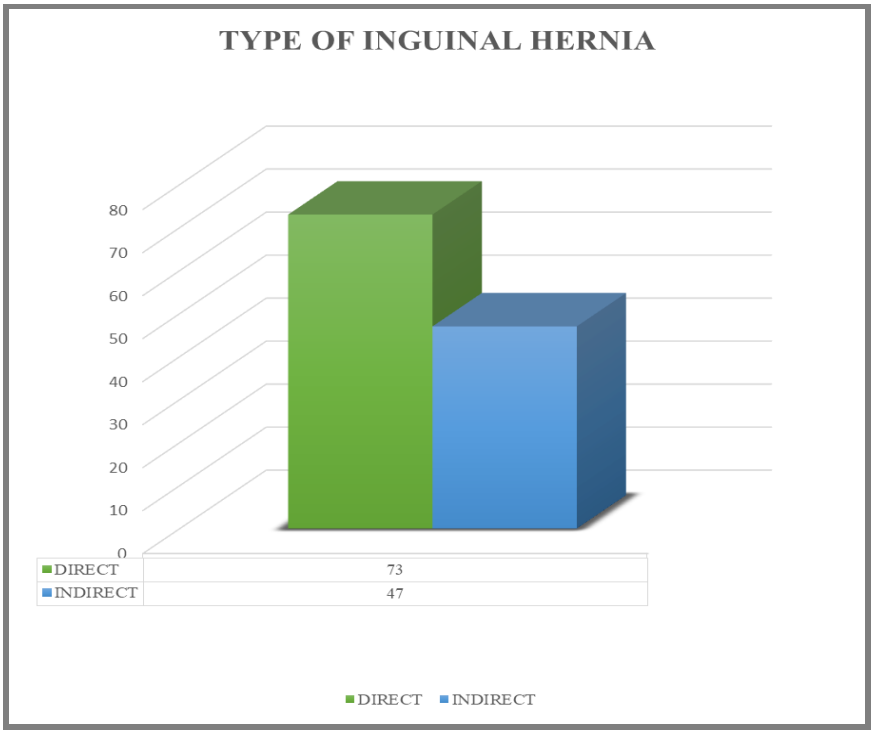

Figure No. 3: Graphical representation of types of types of inguinal hernia.

4. Factors Causing Inguinal Hernia

S. NO.	FACTORS	NO. OF PATIENTS	PERCENTAGE
1.	HEAVY WEIGHT LIFTING	34	28.33%
2.	PROLONGED SITTING / STANDING	23	19.6%
3.	OBESITY	3	2.5%
4.	CHRONIC COUGHING	6	5%
5.	AGE RELATED	13	10.83%
6.	POST PARTUM / POST SURGERY	8	6.6%
7.	CONGENITAL	12	10%
8.	CONSTIPATION	21	17.5%
9.	TOTAL	120	100%

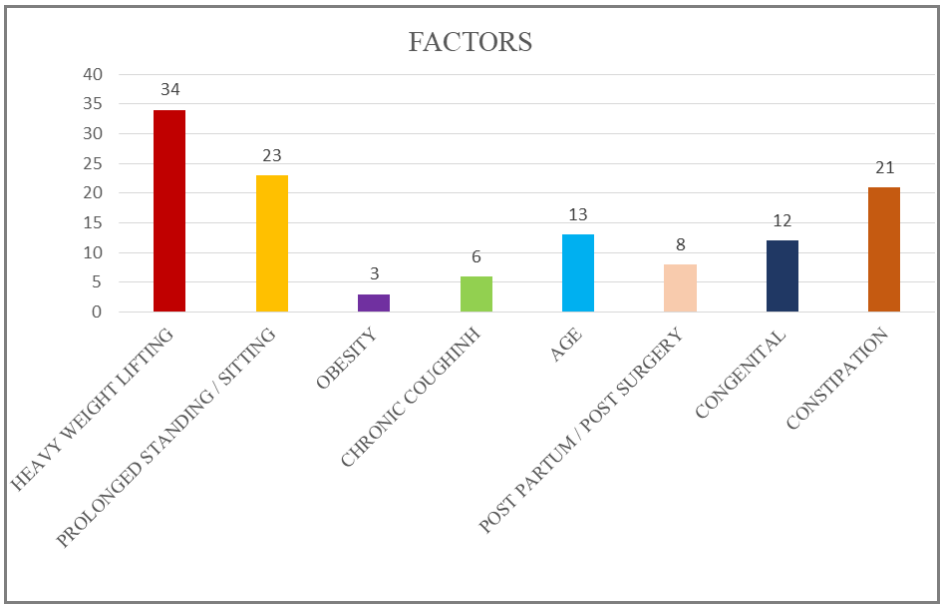

Figure No. 4: Graphical representation of types of factors causing inguinal hernia.

5. RECURRENCE

S. NO	RECURRENCE	NO. OF PATIENTS	PERCENTAGE
1.	RECURRENT	10	8.3%
2.	NON-RECURRENT	110	91.6%
3.	TOTAL	120	100%

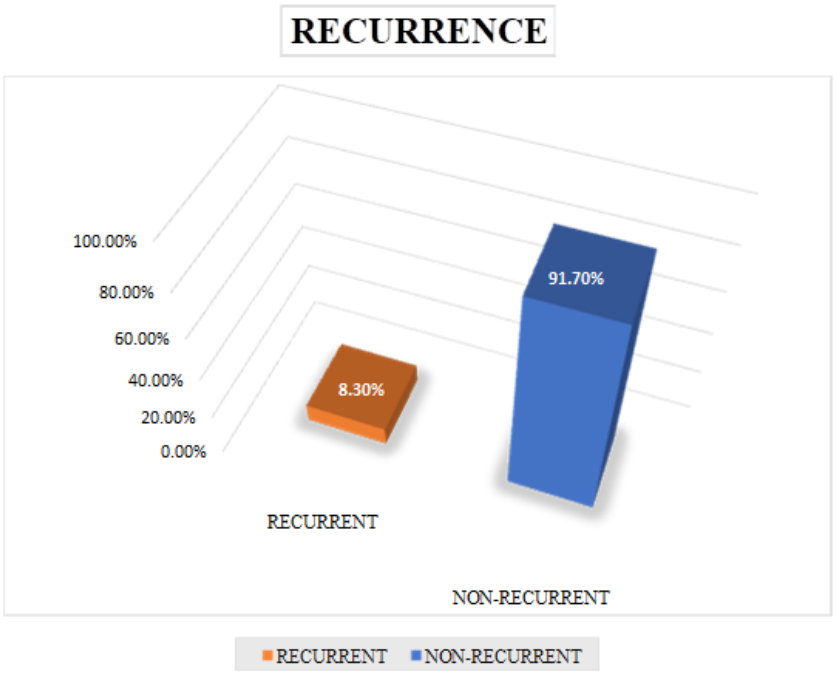

Figure No. 5: –Graphical representation of recurrence of inguinal hernia.

6. STRANGULATION

TABLE NO: 12.

S. NO	STRANGULATION	NO. OF PATIENTS	PERCENTAGE
1.	STRANGULATED	9	7.5%
2.	NON-STRANGULATED	111	92.5%
3.	TOTAL	120	100%

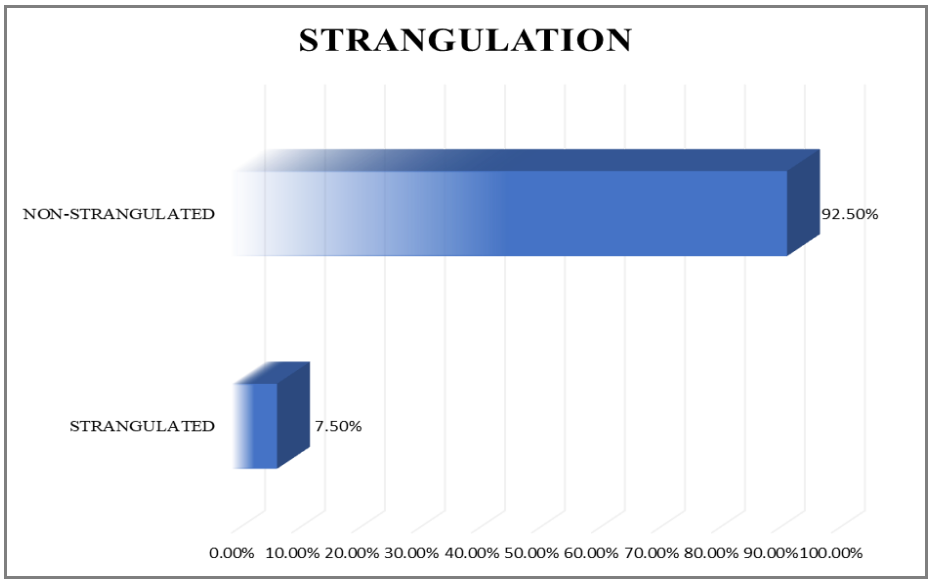

Figure No. 6: - Graphical representation of strangulation.

7. TYPE OF SURGERY

S. NO	SURGERY	NO. OF PATIENTS	PERCENTAGE
1.	OPEN HERNIA REPAIR	95	79.16%
2.	LAPAROSCOPIC REPAIR	25	20.83%
3.	TOTAL	120	100%

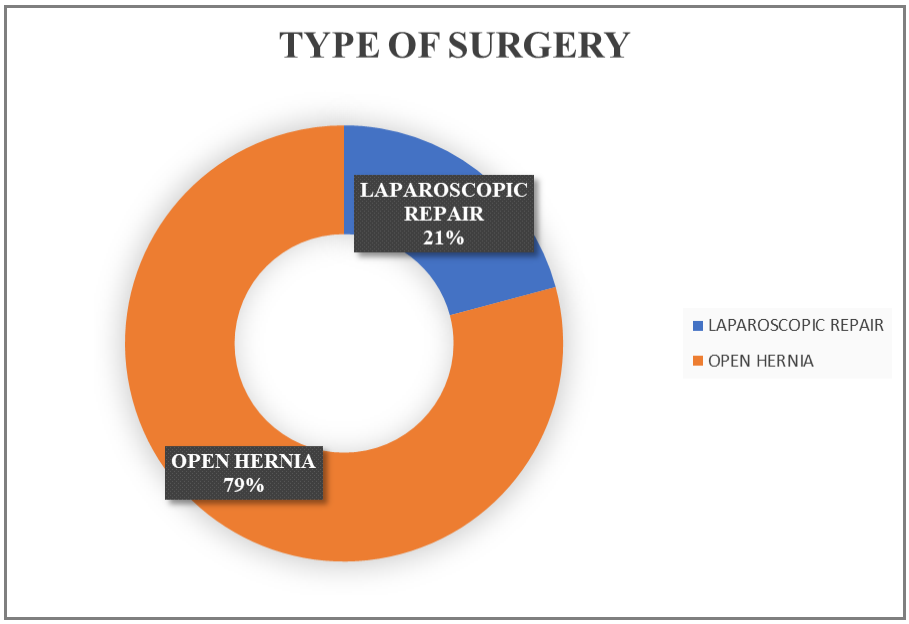

Figure No. 7:- Graphical representation of types of surgery.

8. MESH PLACEMENT:

S. NO	MESH PLACEMENT	NO. OF PATIENTS	PERCENTAGE
1.	WITH MESH	101	84.16
2.	WITHOUT MESH	19	15.83
3.	TOTAL	120	100%

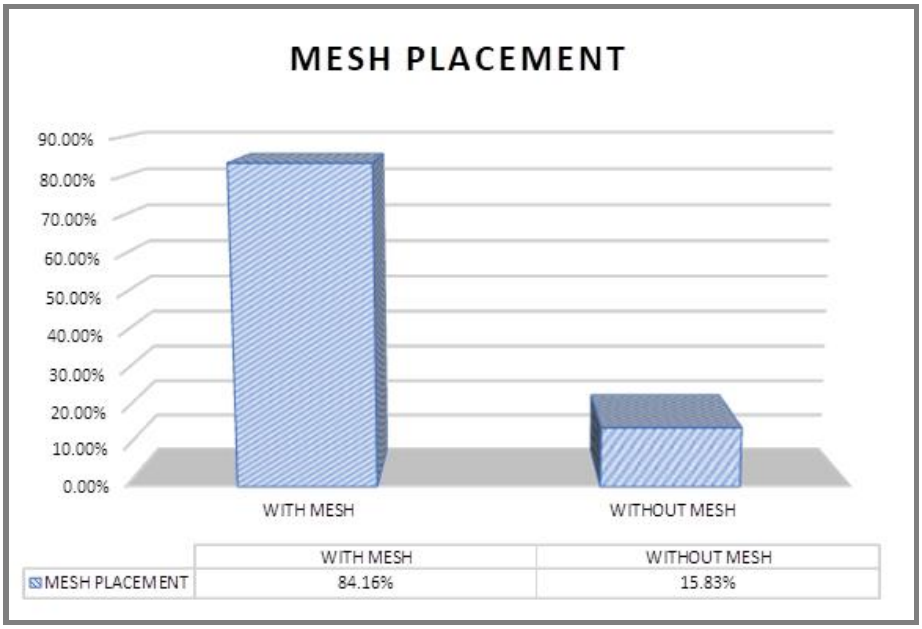

Figure No. 8: Graphical representation of mesh placement.

DISCUSSION

The findings of this study align with global trends indicating a higher prevalence of inguinal hernia in males, particularly in middle-aged individuals. The predominance of direct inguinal hernias suggests that acquired factors such as muscle weakness and occupational strain contribute significantly to disease onset.

The study highlights that open hernia repair remains the most commonly performed surgical technique, with a preference for mesh reinforcement to reduce recurrence rates. Laparoscopic approaches, though less frequently performed, offer advantages in terms of quicker recovery and reduced post-operative complications.

The identification of key risk factors such as heavy lifting and prolonged standing suggests the need for preventive measures, including occupational modifications and lifestyle interventions. Patient education on early symptom recognition and timely surgical intervention can further reduce the incidence of complications like strangulation and recurrence.

CONCLUSION

This study concludes that inguinal hernia predominantly affects males, with direct hernias being more common. The major contributing factors include occupational strain and chronic intra-abdominal pressure. Open hernia repair with mesh placement remains the preferred surgical approach, ensuring lower recurrence rates. Preventive strategies and early interventions are crucial in improving patient outcomes and reducing complications.

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Conflict of Interest

The authors declare no conflicts of interest.

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