

Perspective Study of Hernias of Anterior Abdominal Wall in Andhra Pradesh Population

S V Satyasekhar

Civil Surgeon Specialist, Community Health Centre, Vizianagaram, Andhra Pradesh, India

Abstract

Background: Hernia of anterior abdominal wall is quite common as the muscles of abdomen are weak and act against anti-gravity.

Materials and Methods: Sixty patients of different age group below 75 years were selected for the study. Their radiological (USG and CT) and blood examination were carried out to study the comorbidity. Small defects were sutured and large wide hernias were closed by mesh repair.

Results: Nineteen (31.6%) were umbilical, 10 (16.6%) were paraumbilical, 24 (40%) were inguinal, and 7 (11.6%) were epigastrum. Baseline manifestations were, 12 (20%) smokers, 16 (26.6%) DM, 15 (25%) coronary artery disease, 10 (16.6%) constipation, and 7 (11.6%) were obese. The clinical manifestation was 17 (28.3%) had swelling, 13 (21.6%) had pain, 8 (13.3%) had abdominal distension, 5 (8.3%) had irreducible hernia, 4 (6.6%) had vomiting, 6 (10%) had strangulation, and 7 (11.6%) had intestinal obstruct ruction. The post-operative infections were that 7 (11.6%) had wound infection in anatomical group, 5 (8.3%) wound infection in mesh repair, and 4 (6.6%) seroma mesh repair. The recurrence of different hernia was highest in inguinal 4 (6.6%) and least in epigastrum 1 (1.6%).

Conclusion: Mesh repair method to treat hernias has proved ideal and least recurrence was noted.

Key words: Anterior, Diabetes mellitus, Mesh repair, Recurrence, Suturing

INTRODUCTION

Hernia is a word derived from the Greek word Heron, meaning a branch or protrusion. Hernia is the bulging of the part of the normal contents of the abdominal cavity.^[1] Hernias of the anterior abdominal wall are quite common due to erect posture and muscles of the anterior abdominal wall, which are anti-gravity muscle; hence, they have to act against the gravity and maintain their tonicity, whenever there is reduction in the tonicity against the of viscera from weak points of the abdominal wall. The most common symptoms are swelling, heavy feeling of abdomen discomfort in the abdomen regions. However, such symptoms may not be in some patients, and they will realize during a medical

check-up.^[2] There are many aggravating factors, such as constipation, persistence cough, weight lifting, and obesity.^[3,4] Treatment of the anterior abdominal wall hernia may be surgical or non-surgical of the hernia.

MATERIALS AND METHODS

Sixty adult patients regularly visiting OPD in surgery of community health center Bobli-535,558 (Andhra Pradesh) were studied.

Inclusive Criteria

The patients having the signs and symptoms of anterior abdominal wall were selected for the study.

Exclusion Criteria

The patient's history of malignancy, cardio-vascular surgery above 75 years, HIV positive was excluded from the study.

Method

A history of every patient was noted. The majority of the patients belonged to middle socio-economic status, smokers, alcoholic, and tobacco-chewers, also noted.

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Corresponding Author: S V Satyasekhar, Community Health Centre, Vizianagaram, Andhra Pradesh, India.
Cell: +91-9441966799/7702345007. E-mail: satyasekhar22@gmail.com

Radiological (USG and CT scan) study was done to confirm the types of hernia. Blood investigations were also done to study the comorbidity of the patients small defects of hernia that was sutured and large and wide were closed by mesh repair. The duration of the study was July 2016–February 2020.

Statistical Analysis

Types of hernia, baseline manifestation, clinical manifestations post-operative, infections, and recurrence were studied and segregated with percentage. The analysis was done SPSS 2007 software. The ratio of male and females was 2:1.

OBSERVATION AND RESULTS

Table 1 shows study of types of hernia in anterior abdominal wall 19 (31.6%) umbilical hernia, 10 (16.6%) paraumbilical, 24 (40%) inguinal, and 7 (11.6%) epigastric hernia.

Table 2 shows base-line manifestations in the patients of anterior abdominal hernia, 12 (20%) smokers (cough), 16 (26.6%) diabetic mellitus. 15 (25%) coronary artery diseases, 10 (16.6%) constipation, and 7 (11.6%) obesity.

Table 3 shows clinical manifestation in patients of anterior abdominal wall – 17 (28.3%) swelling 13 (21.6%) pain, 8 (13.3%) abdominal distension, 5 (8.33%) irreducible hernia, 4 (8.33%) vomiting, 6 (10%) strangulation, and 7 (11.6%) intestinal obstruction.

Table 1: Types of hernia of the anterior abdominal wall

Sl. No.	Types of Hernia	No of patients	Percentage
1	Umbilical	19	31.6
2	Paraumbilical	10	16.6
3	Inguinal hernia	24	40
4	Epigastrium	7	11.6

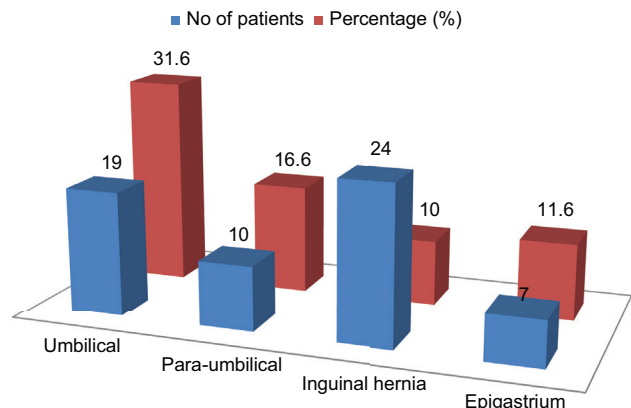


Table 4 shows a study of post-operative infections in the patients of anterior abdominal wall, hernia 7 (11.6%) wound infection in anatomical group, 5 (8.33%) wound infection in mesh repair, 4 (6.6%) in seroma anatomical repair, and 3 (5%) in seroma mesh repair.

Table 5 shows recurrence of different hernias of anterior abdominal wall – 1 (1.6%) in paraumbilical of mesh repair, 3 (%) in umbilical hernia, 1 (1.6%) epigastrium of anatomical repair, 4 (6.6%) in inguinal hernia of

Table 2: Baseline manifestations in the patients

Sl. No	Particulars	Number of Patients	Percentages
1.	Smokers (cough)	12	20
2.	Diabetic mellitus	16	26.6
3.	Coronary artery disease	15	25
4.	Constipation	10	16.6
5.	Obesity	7	11.6

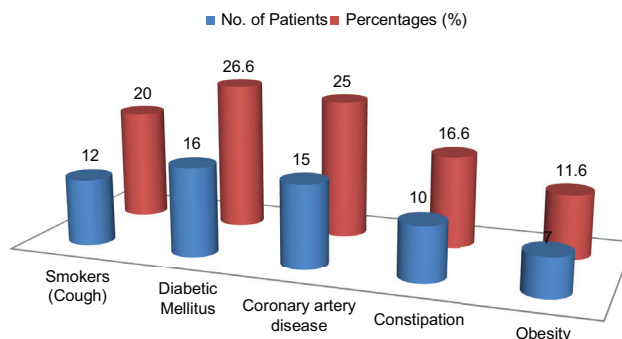


Table 3: Clinical manifestation of anterior abdominal hernia

Sl. No	Particulars	Number of patients	Percentages
1.	Swelling	17	28.3
2.	Pain	13	21.6
3.	Abdominal distension	8	13.3
4.	Irreducible hernia	5	8.33
5.	Vomiting	4	6.66
6.	Strangulation	6	10
7.	Intestinal obstruction	7	11.6

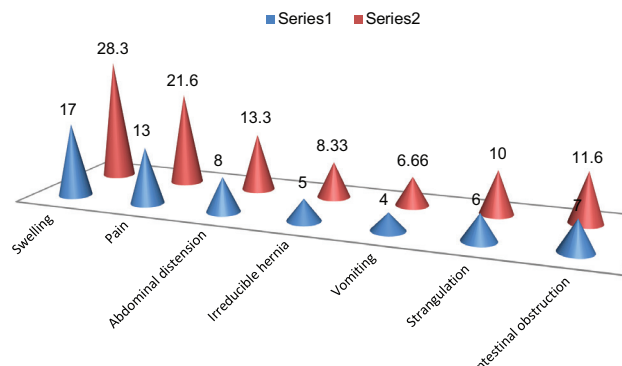


Table 4: Study of post-operative infections in the anterior abdominal wall hernia

Sl. No	Particular	Number of patients	Percentage
1.	Wound infection in anatomical group	7	11.6
2.	Wound infections in mesh repair	5	8.33
3.	Seroma in anatomical repair	4	6.66
4.	Seroma mesh repair	3	5

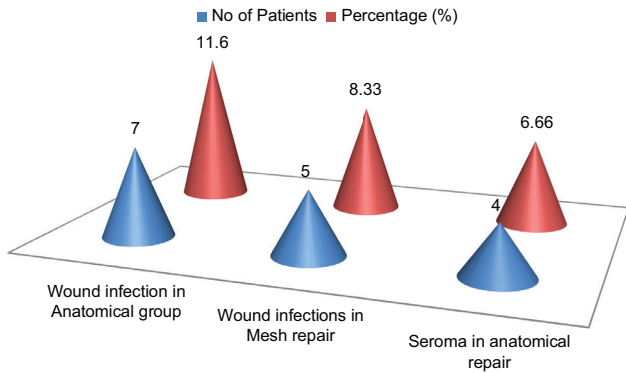


Table 5: Recurrence of different hernias of anterior abdominal wall

Recurrence	Paraumbilical (%)	Umbilical (%)	Epigastrum (%)	Inguinal (%)
Anatomical repair	-	3 (5)	1 (1.6)	4 (6.6)
Mesh repair	1 (1.66)	1 (1.66)	-	2 (3.3)

anatomical repair, and 2 (3.3%) of inguinal hernia of mesh repair.

DISCUSSION

In the present study of Anterior Abdominal Wall hernias in Andhra Pradesh population. The types of hernias were 19 (31.6%) umbilical, 10 (16.6%) paraumbilical, 24 (40%) inguinal, and 7 (11.6%) epigastrum [Table 1]. The baseline manifestations were 12 (20%) smokers, 16 (26.6%) DM 15 (25%), coronary artery diseases, 10 (16.6%) constipation, and 7 (11.6%) obesity [Table 2]. The clinical manifestations were – 17 (28.3%) had swelling, 13 (21.6%) had pain, 8 (13.3%) had abdominal distension, 5 (8.33%) irreducible hernia, 4 (6.6%) vomiting, and 6 (10%) strangulation [Table 3]. The post-operative infections were that 7 (11.6%) had wound infection in anatomical group, 5 (8.3%) had wound infections in mesh repair, 4 (6.6%) seroma in anatomical repair, and 3 (5%) serona

mesh repair [Table 4]. The recurrence was highest in inguinal 4 (6.6%) in anatomical 2 (3.3%) in mesh repair and least in epigastrum 1 (1.6%) [Table 5]. These findings were more or less in agreement with the previous studies.^[5-7]

AS mentioned, raised intra-abdominal pressure obesity smokes old age and neglected urinary obstructive symptoms may be the contributing factors. The incidence of direct and indirect hernias is almost equal; however, indirect hernias are more common below 50 years of age than direct, but direct hernia predominates as the age advances which may be attributed to physiological wear and tear of fibromuscular tissues, prostatic hypertrophy, and comorbid illnesses. The incidence of the anterior abdominal wall increases with aging.^[8,9] Moreover, D.M. hypertension multiparity, malnutrition, may cause raise in intra-abdominal pressure due to low-elasticity in the musculature leads to hernias.

As anterior abdominal hernias have a high prevalence in rural areas; hence, low socio-economic status^[10] also has a contributory role in an anterior abdominal hernia.

SUMMARY AND CONCLUSION

The spectrum of anterior abdominal wall hernias is more or less constant throughout India and abroad having differences in educational socio-economic status, that is, different habits and habitat. However, this study demands further pathophysiological, biomechanical, nutritional, genetic, and hormonal studies because the exact etiology of hernia is still unclear.

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