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A clinical study on the inguinal hernia and its management in the general surgical practice at tertiary care hospital

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Abstract
Background: Inguinal hernias are the commonest health complication encountered in general surgical practice. Early diagnosis and elective repair is a safe and effective strategy for patients of all ages that avoid incarceration, strangulation, complications and decrease morbidity and mortality. The present study was designed to study the inguinal hernias and its management at tertiary care hospital at Nizamabad, Telangana.
Methods: The present observational study consist a total of 90 cases clinically suspected and diagnosed with inguinal hernia attending emergency department above 15 years of age were included. All subjects underwent detailed clinical and radiological examination and data was recorded. Post-operative follow up was done to assess the complications.
Results: Majority cases had indirect inguinal hernia (85.88%) than direct inguinal hernia (14.44%). 94.43% had unilateral hernia (Right 65.55% and Left 28.88%) and 5.55% had bilateral hernia. In 56.66% cases bowel was the hernial content and in 43.33% cases omentum was the hernial content. A wound infection (2.22%) was most common postoperative complication followed by groin pain (2.22%), hematoma (1.11%), scrotal swelling (1.11%) and recurrence (1.11%).
Conclusion: The incidence of inguinal hernia was most common in people of 5th decade and above age group. The hernioplasty (58%) was the preferable surgical option in the management of hernia. Increasing awareness in general population may help in detect at earlier stage and will reduce the disease morbidity.

Keywords: inguinal hernia, postoperative complications

Introduction
Inguinal hernia is the familiar reason a primary care patient may need referral for surgical intervention. Hernia is termed as a protrusion of a tissue or organ through an abnormal opening within the anatomic structure [1]. The inguinal hernias account approximately 75% of all abdominal hernias worldwide. The incidence of inguinal hernias was in people of 5th decade with male dominance [2].
Inguinal hernia repair accounts 10-15% of all general surgical procedures take place in global context [4]. The annual incidence of inguinal hernia is 19, 57,850 in India [4]. The management of inguinal hernia depends upon the duration and type of presentation. Delay in the treatment may leads to visceral organ strangulation with additional risks of gangrene, perforation, and infection of the peritoneal cavity. The higher rate of morbidity and mortality was reported in developing countries due to delay in report, lack of modern surgical facilities and delay in treatment [5]. Early diagnosis and elective repair is a safe and effective strategy for patients of all ages that avoid incarceration, strangulation and their complications [6]. There is need of more reports required on the inguinal hernia and reports on their surgical management and outcomes in India. The present study was designed to study the inguinal hernias and its management at tertiary care hospital at Nizamabad, Telangana.

Materials and Methods
The present observational study was conducted in the Department of General Surgery, Government Medical College & Hospital, Nizamabad, Telangana from August 2020 to June 2021. A total of 90 cases clinically suspected and diagnosed with inguinal hernia attending emergency department above 15 years of age were recruited. Informed consent was obtained

from all the cases and study protocol was approved by institutional ethics committee.

Inclusion criteria: Patients with primary groin hernias, both unilateral and bilateral groin hernias, patients aged 15 to 80 years and ASA Grade 1 to 3.

Exclusion Criteria: Recurrent Inguinal hernias, femoral hernias, previous pre-peritoneal surgery and ASA Grade 4&5.
In clinical examination the general condition, side, type of swelling, type of hernia, type of complication were studied. They were investigated by plain X-ray abdomen erect view, X-ray Chest PA view, ECG and base line investigations like blood sugar, urea, creatinine, complete haemogram, urine examination, bleeding time and clotting time done for all cases. Surgical management was performed in all cases. Most of the surgery was performed in spinal anesthesia, few were done in general anesthesia. During the surgery the type of hernia, type of content and the magnitude of hernia were noted. Post operatively all cases were followed up regularly. In the follow up wound infection, hematoma, pain, scrotal swelling, recurrence were noted.

Results

Table 1: Demographic details of study participants.

Variables	Frequency	Percentage
Age (In years)		
15- 20	1	1.11
21-30	8	8.88
31-40	12	13.33
41-50	14	15.55
51-60	20	22.22
> 60	35	38.88
Onset of symptoms (In months)		
< 1	2	2.22
1 to 3	24	26.66
3 to 6	35	27.77
6 to 9	16	17.77
9 to 12	8	8.88
> 12	5	5.55
Type of hernia		
Direct	13	14.44
Indirect	77	85.88
Laterality of hernia		
Right	59	65.55
Left	26	28.88
Bilateral	5	5.55
Content of hernia		
Bowel	51	56.66
Omentum	39	43.33
Complications on presentation		
Irreducible	9	10
Obstructed	4	4.44
Strangulated	2	2.22
Duration of surgery	88.76 minutes	

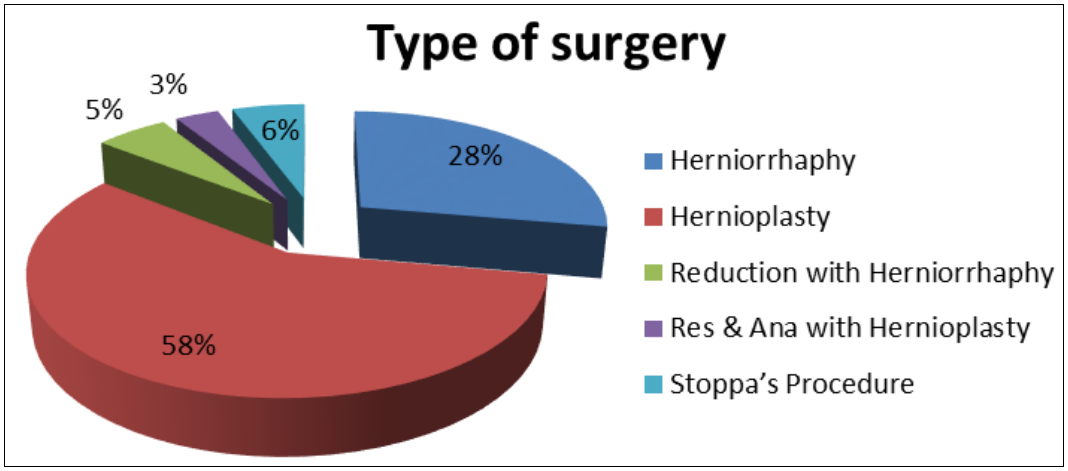

Fig 1: Details about nature of operative procedure.

Table 2: Post-operative complication in study participants.

Complications	Frequency	Percentage
Wound Infections	2	2.22
Groin Pain	2	2.22
Hematoma	1	1.11
Scrotal Swelling	1	1.11
Recurrence	1	1.11

Table 3: Complications following nature of surgery.

Complications	Frequency	Percentage
Herniorrhaphy	2	8.00
Hernioplasty	1	1.81
Reduction and herniorrhaphy	2	40.00
Resection and anastomosis with Herniorrhaphy	1	33.33

Discussion

A total of 90 cases clinically diagnosed with inguinal hernia attending emergency department above 15 years were recruited. Majority cases were above 60 years (38.88%), followed by 51-60 years (22.22%), 41-50 years (15.55%), 31-40 years (13.33%), 21-30 years (8.88%) and 15-20 years (1.11%). A study by Singh S *et al.*, included 51.85% cases between 45-64 years age group, 31.48% cases between 15-44 years and 16.67% cases above 65 years [7]. A study by Pulin Ch Kumar and Paul Pratik reported out of 50 hernia cases, majority cases were fall under the age group 50-60 years (30%) and very less number below 20 years [8]. A study by Hariprasad and Srinivas observed majority cases with complicated inguinal hernia between age group 51-60 years (22.5%) [11]. A study by Prakash S *et al.*, reported majority cases between 60-69 years (37.1%), followed by 50-59 years (28.6%) [12].

Majority cases reported onset of symptoms between 3-6 months (27.77%), followed by 1-3 months (26.66%), 6-9 months (17.77%) and 9-12 months (8.88%). In this study, irreducibility was seen in 10% cases, obstruction by hernia in 4.44% cases and strangulation of hernia in 2.22% cases (Table 1). A study by Pulin Ch Kumar and Paul Pratik reported irreducible hernia in 40%, obstructed hernia in 36% cases and strangulated hernia in 24% cases [8]. A study by Prakash S *et al.*, reported incidence of complicated hernia includes obstruction caused by hernia was 63% whereas pain and irreducibility were 23% and strangulation of hernia contents was 14% [12]. The result of present study was less when compared to the above studies.

In this study, 85.88% cases had indirect inguinal hernia and 14.44% cases had direct inguinal hernia. Unilateral hernia was seen in 94.43% cases (Right 65.55% and Left 28.88%) and bilateral hernia in 5.55% cases. A study by Rao SS *et al.*, noticed direct hernia in 16.39%, indirect hernia in 83.61% cases. Unilateral right side hernia was seen in 57.38%, left side in 36.07% and bilateral in 6.56% cases [5]. A study by Singh S *et al.*, reported 57.41% had right side and 38.89% had left side and 3.70% had bilateral hernia. In continue, 62.96% cases had indirect hernia, 35.19% had direct hernia and 1.85% had recurrent hernia [7]. A study by Pulin Ch Kumar and Paul Pratik reported right sided hernias in 66% cases and left sided in 34% cases. Right-sided hernias tend more to present with features of strangulation than left side; $p < 0.044$ which is statistically significant. Majority (90%) of complicated inguinal hernia is indirect and the rest (10%) are the direct hernia [8]. Grosfeld *et al.*, reported an incidence of 55%-60% of the inguinal hernias on the right side, that of 25% on the left side and that of 15% bilaterally [9]. A study by Ravikumar V *et al.*, reported right sided hernias in 54% cases and left side hernias in 42% cases [10]. A study by Hariprasad and Srinivas reported right sided hernias in 67.5% cases and left sided in 22.5% cases and bilateral hernia in 5% cases [11]. A study by Prakash S *et al.*, reported right sided hernias are most complicated than left sided [12]. The results of present study was in comparable with the results of above studies where more number of cases had right side hernia than left side and bilateral hernia cases are very less.

In 56.66% cases bowel was the hernial content and in 43.33% cases omentum was the hernial content. A study by Rao SS *et al.*, reported that the content of the hernia sac was large bowel in 1.64%, omentum in 13.11% cases and none in 85.25% cases [5]. A study by Pulin Ch Kumar and Paul Pratik found bowel as hernia content in 74% cases and omentum as hernia content in 26% cases [8]. A study by Prakash S *et al.*, reported that the content of the hernia sac was small bowel in 74.3% and omentum in 25.7% cases [12]. The result of present study was in consistent with above studies where more number of cases had hernia content as bowel.

The average duration of surgery was 88.76 minutes (Table 1). In this study, hernioplasty (58%) was the common operative procedure used to manage the cases followed by herniorrhaphy (28%), stoppa's procedure (6%), reduction with herniorrhaphy (5%) and resection and anastomosis with hernioplasty (3%) (Figure 1). A study by Pulin Ch Kumar and Paul Pratik reported various operative procedure to manage inguinal hernia i.e. reduction and hernioplasty in 56% cases, omentectomy and herniorrhaphy in 6% cases, resection of bowel with hernioplasty in 32% cases, resection of bowel with stoma formation with herniorrhaphy in 4%, appendectomy with herniorrhaphy in 2% cases [8].

In this study, post-operative complications were very minimal i.e. wound infections (2.22%), groin pain (2.22%), hematoma (1.11%), scrotal swelling (1.11%) and recurrence (1.11%) (Table 2). A study by Rao SS *et al.*, found postoperative complication rate was only 4.92% [5]. A study by Singh S *et al.*, noticed postoperative complication like hematoma in 3.70% cases, seroma in 5.65% cases and infection in 3.70% cases [7]. A study by Prakash S *et al.*, reported wound infection in 11.5% cases, seroma in 2.8% cases and death in 5.7% cases as post-operative complications. However, no complications were observed in 80% cases [12]. Wound infection was the leading postoperative complication in the all the studies.

Conclusion

Inguinal Hernias constitute majority of the Inguino scrotal swellings. Hernia repair is the gold standard measure for training the residents in any hospital. The results indicating that right-sided inguinal swelling (65.55%) was common than left side (28.88%). Bowel was most common hernial content. Post-operative complications were very minimal i.e. wound infections (2.22%), groin pain (2.22%), hematoma (1.11%), scrotal swelling (1.11%) and recurrence (1.11%). The incidence of postoperative complication was more in old age cases.

References

1. Kim Edward Leblanc, Leanne Leblanc L, Karl Leblanc A. Inguinal Hernias: Diagnosis and Management. American Family Physician 2013;87(12):844-848.
2. McIntosh A, Hutchinson A, Roberts A, Withers H. Evidence-based management of groin hernia in primary care - A systematic review. Fam Pract 2000;17(5):442-447.
3. Mabula JB, Chalya PL. Surgical management of inguinal hernias at Bugando Medical Centre in North western Tanzania: Our experiences in a resource-limited setting. BMC Res Notes 2012;5:585.

4. Primatesta P, Goldacre MJ. Inguinal hernia repair: Incidence of elective and emergency surgery, readmission and mortality. Int J Epidemiol 1996;25:835-9.
5. Rao SS, Singh P, Gupta D, Narang R. Clinicoepidemiologic profile of inguinal hernia in rural medical college in central India. J Mahatma Gandhi Inst Med Sci 2016;21(2):116-121.
6. Bali C, Tsironis A, Zikos N, Mouselimi M, Katsamakis N. An unusual case of a strangulated right inguinal hernia containing the sigmoid colon. Int J Surg Case Rep 2011;2(4):53-5.
7. Singh S, Prakash R, Singh V. A clinical study of inguinal hernia with special reference to laparoscopic trans-abdominal pre peritoneal repair. Int Surg J 2017;4:282-90.
8. Pulin Kumar CH, Paul Pratik. A Clinical Study of Complicated Inguinal Hernia with Special Reference to Its Management. Medico-legal Update 2020;20(3):279-283.
9. Grosfeld *et al.* Inguinal hernia in children – the factors which affected the recurrence in 62 cases. Journal of Paed Surgery 1991, 265-83.
10. Ravikumar V, Rajshankar S, Hareesh RS Kumar, Nagendra Gowda MR. A Clinical Study on the Management of Inguinal Hernias in Children on the General Surgical Practice. Journal of Clinical and Diagnostic Research 2013;7(1):144-147.
11. Hariprasad S, Srinivas T. Clinical study on complicated presentations of groin hernias. International Journal of Research in Medical Sciences 2017;5(8):3303-3308.
12. Prakash S, Samraj A, Muthukumaran G. A study on groin hernias presenting as acute surgical emergencies in adults. International Surgery Journal 2017;4(12):3866-3872.