

Prevalence and Surgical Management of Inguinal Hernia in a Tertiary Care Teaching Hospital in A Rural Area: A Retrospective Study

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Abstract

Background: The repair of inguinal hernia is the often-performed surgical operation worldwide [1]. It is the common condition among the people and affects around 27% - 43% of males and 3% - 6% of females of the world population. In the present study, an attempt has been made to find the prevalence of hernia and the surgical management done in our geographical area. **Methods:** The present study was retrospective, cross-sectional study from the period of 1st January 2013 to 31st December 2017. A total of 294 hernia patients were admitted in inpatient surgical ward during that period. The demographic details of all the patients were noted from the medical records. **Results:** A total of 294 inguinal hernia patients undergone surgical interventions during the study period. Among which, 273 (93%) patients were male and 21 (7%) were females. The post-operative stay in hospital is almost less than 10 days as it indicates that most of the patients were discharged without any complication. **Conclusion:** The male patients are predominant compared to female patients. The hernioplasty was performed in all the patients and the surgical complications are less. The exact prevalence rate may be high as some patients may either undergo a self-treatment or may not report due to the lack of complications.

Keywords: Inguinal Hernia; Prevalence; Hernioplasty; Post-operative Stay.

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Introduction

The repair of inguinal hernia is the often-performed surgical operation worldwide [1]. It is the common condition among the people and affects around 27% - 43% of males and 3% - 6% of females of the world population [2,3]. Most of the inguinal hernias are symptomatic and only treatment is surgery [4].

Most often, the surgical intervention is successful, but recurrences may be seen in some patients for whom a reoperation is necessitated [5]. About 1-3% of patients suffer from chronic pain, which has a negative impact globally and accounts for healthcare costs [6].

The management of inguinal hernia in rural area poses a therapeutic challenge to the surgeons in resource-limited conditions [7]. In many rural areas, there is lack of facilities such as laparoscopy and mesh and thus pose difficulty to perform surgery [8]. In some occasions, inguinal hernias are managed as emergencies.

If they are not managed by surgery, it may lead to mortality of up to 87% as some studies indicates [9-11]. Thus, the early presentation and elective repair of inguinal hernia should be done to eliminate the morbidity and mortality associated with this very common problem [12].

There is paucity in published data on inguinal hernia and its management in many rural areas of the different parts of the world. In our geographical area, there is no proper data on the prevalence of inguinal hernia and its therapeutic management. Hence an attempt has been made in the present study to find the prevalence of inguinal hernia and its surgical interventions.

Materials and Methods

The present study was retrospective, cross-sectional study from the period of 1st January 2013 to 31st December 2017. The study was done in Tagore Medical College Hospital, a tertiary care teaching hospital situated in Rathinamangalam village in Kancheepuram district of Tamil Nadu, India. A total of 294 inguinal hernia patients were admitted in inpatient surgical ward during that period. The demographic details of all the patients were noted from the medical records. Their bowel habits, dietary habits, amount of physical activity, were also noted.

All the patients were done hernioplasty - Prolene mesh repair. In indirect hernias, sac was opened, contents reduced, sac was ligated at its neck, internal ring narrowed, posterior layer repaired with on-lay prolene mesh. In direct hernias, sac was isolated, separated from cord structures. Sac was pushed inside through transversalis fascia, transversalis abdominis muscle and fascia closed. The internal ring narrowed on-lay prolene mesh was kept over the posterior wall.

All the data were entered in the excel sheet and the data were subjected to descriptive statistics with SPSS vs 21 software.

Results

A total of 294 inguinal hernia patients undergone surgical interventions during the study period. Among which, 273 (93%) patients were male and 21 (7%) were females (Table 1).

Year wise also the male patients are more compared to female patients. Thus, prevalence rate of hernia in the present study is more in males in this geographical area. Many studies have shown that the prevalence rate of inguinal hernia is high among males than that of females.

Most of the patients are predominantly adults above the age of 41 years (Table 2). It was also evident that most of the patients belong above the age of 20. Only 5 patients below 10 years was admitted in this study. This finding clearly indicates that the hernia are common in the adults compared to paediatric age group.

The post-operative stay in hospital is almost less than 10 days as it indicates that most of the patients (63%) were discharged without any complication (Table 3). Only 4 patients presented with complications like wound dehiscence and recurrence.

Table 1: Number of patients with hernia admitted for surgical intervention

Year	Total number of male patient	Total number of female patient	Total
2013	58 (95%)	3 (5%)	61
2014	82 (91%)	8 (9%)	90
2015	47 (94%)	3 (6%)	50
2016	43 (93.5%)	3 (6.5%)	46
2017	43 (91.5%)	4 (8.5%)	47
Total	273 (93%)	21 (7%)	294

Table 2: Age-wise distribution of hernia patients

Year	Age group in years							
	0 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70	71 and above
2013	0 (0%)	6 (10%)	6 (10%)	13 (21%)	17 (28%)	12 (20%)	5 (8%)	2 (3%)
2014	1 (1%)	6 (7%)	4 (4.5%)	13 (14.5%)	17 (19%)	23 (26%)	16 (18%)	10 (11%)
2015	0 (0%)	2 (4%)	6 (12%)	6 (12%)	11 (22%)	12 (24%)	10 (20%)	3 (6%)
2016	3 (6.5%)	1 (2%)	7 (15%)	6 (30%)	5 (11%)	11 (24%)	10 (22%)	3 (6.5%)
2017	1 (2%)	1 (2%)	8 (17%)	5 (10.5%)	15 (32%)	9 (19%)	5 (10.5%)	3 (7%)
	5	16	31	43	65	67	46	21

Table 3: Post-operative stay of hernia patients

Year	Post-operative stays in days			
	0 to 10	11 to 20	21 to 30	31 and above
2013	43 (70%)	15 (25%)	3 (5%)	0 (0%)
2014	56 (62%)	28 (31%)	3 (3.5%)	3 (3.5%)
2015	30 (60%)	14 (28%)	6 (12%)	0 (0%)
2016	31 (67%)	11 (24%)	4 (9%)	0 (0%)
2017	25 (53%)	21 (45%)	0 (0%)	1 (2%)
	185 (63%)	89 (30%)	16 (5.5%)	4 (1.5%)

Discussion

The inguinal hernia is one of the commonly performed general surgery in many hospitals [13]. The rural population is expected to have a high prevalence than that of urban area because of their type of professions [14]. As expected, the inguinal hernia is common in the males compared to the females [15]. This may be due to the fact that males are involved in more strenuous work compared to females. Further, in some cases the females may not report the hernia to the hospital because of the shyness as the swelling may occur in labia major.

The direct and indirect hernia are encountered in the present study. However, the direct hernia is more common than the indirect hernia which is in a ratio of 7:3 respectively. Further, the inguinal hernia is more common on right side. This can be attributed to late descend of right testis and more frequent failure of closure of right processus vaginalis [16].

From the study it is clear that the incidence of inguinal hernia increases with the aging. This may be due to the physiological deterioration of fibromuscular tissues, prostatic hypertrophy and comorbid illnesses [17]. In the present study, a total of 5 patients were below 10 years of age which might be due to presentation of congenital hernia [17].

Conclusion

The male patients are predominant compared to female patients. hernioplasty was performed in all the patients and the surgical complications are less. The exact prevalence rate may be high as some patients may either undergo a self-treatment or may not report due to the lack of complications.

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