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Research Article

CLINICO-DEMOGRAPHIC PROFILE AND MANAGEMENT OF PATIENTS WITH INGUINAL HERNIA: A RETROSPECTIVE OBSERVATIONAL STUDY AT GMC KATHUA

[1]Dr. Ravinder Kumar., [2]Dr. Ankush Banotra.,[3]Dr. Junaid Nabi Wani and [4]Dr. Deepti Chanjotra

Government Medical College, Kathua, 184102

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ABSTRACT

Background: Inguinal hernia repair is the most commonly performed elective surgery in India. Hernia affects 15%-20% of the general population. The prevalence of inguinal hernia in India is estimated to be 1.5 to 2 million. The estimated lifetime risk of inguinal hernia in men is 27% and 3% in women. Prevalence of inguinal hernia is age dependent and in males, it has a bimodal distribution curve, with the first peak in the first year of life and the second peak after the fourth decade of life. **Materials and methods:** An observational, retrospective study was conducted at Government Medical College, Kathua where 140 patients who visited the hospital with complaints of groin swelling with or without pain over a period of one year were included. These patients were thoroughly examined, all their demographic details were obtained and then they were either subjected to surgery after obtaining informed consent or managed conservatively. **Results:** Most of the study subjects were males aged above 60 years, followed by patients in their 4th to 6th decade. Male: female ratio was 46:1. The inguinal hernia was indirect type in 59% of the study population with its predominance on the right side. Most of the patients complained of groin swelling. Majority of the study population comprised of farmers and labourers. BPH was the most commonly associated comorbidity followed by COPD. Majority of the study population had a non-obstructed hernia. Patients were managed by different surgical techniques while those not fit for anaesthesia or did not give consent for surgery were managed conservatively. Local wound infection was seen in 11% of the study population. **Conclusion:** This was a retrospective, single-centred, observational study approved by the Institutional Human and Ethical Committee (IHEC) of the Institute wherein 140 patients admitted as cases of inguinal hernia were included and their clinico-demographic profile studied as per the aims and objectives of the study.

INTRODUCTION

An inguinal hernia or groin hernia is herniation(protrusion) of the abdominal cavity contents through the inguinal canal. Risk factors for the development of hernia include strenuous activity, smoking, chronic obstructive pulmonary disease, obesity, multiple pregnancies, collagen vascular disease, etc. Inguinal hernias usually present as bulges in the groin area that become more prominent while coughing, straining or standing up. The bulge commonly disappears on lying down. Mild discomfort can develop over time. The inability to reduce or place the bulge back into the abdomen usually means that the hernia is incarcerated which requires emergency surgery. Inguinal hernia repair is the most commonly performed elective surgery in India. Hernia affects 15%-20% of the general population. The prevalence of inguinal hernia in India is estimated to be 1.5 to 2 million[1]. The estimated lifetime risk of inguinal hernia in men is 27% and 3% in women[2]. Prevalence of inguinal hernia is age dependent, and in males, it has a bimodal distribution curve, with the first peak in the first year of life and the second peak after the fourth decade of life[3,4].

*Corresponding author: **Dr. Deepti Chanjotra**

Government Medical College, Kathua, 184102

Methodology and patients

This was an observational study conducted at Government Medical College, Kathua (a tertiary care centre in northern India). 140 patients who visited the hospital with complaints of swelling in groin with or without pain over a period of one year were included. These patients were thoroughly examined,

all their demographic details were obtained and then they were either subjected to surgery after obtaining informed consent or managed conservatively. So, this was a retrospective, single-centre, observational study which was approved by the Institutional Human and Ethical Committee (IHEC) of the Institute.

Inclusion Criteria

All patients admitted under the department of Surgery as cases of inguinal hernia irrespective of age and sex.

Exclusion Criteria

All patients other than cases of inguinal hernia.

Aim and Objectives of the study

Aim: To study the clinical and demographic profile of the patients of inguinal hernia admitted at GMC, Kathua.

Objectives

- To describe the clinical presentation of patients of inguinal hernia.
- To describe the types of inguinal hernia present in the study population.
- To describe the management of patients of inguinal hernia.
- To describe the outcomes of patients of inguinal hernia.

RESULTS

Table 1 Age distribution of patients.

Age group(Age in years)	Number of patients	Percentage(%)
0-14	5	3.5
15-29	15	10.5
30-44	42	30
45-59	18	13
60-74	30	21.5
75 & above	30	21.5

Table 2 Gender distribution of patients

Gender	Number of patients	Percentage(%)
Males	137	98
Females	3	02

Table 3 Laterality of the hernia

Laterality	Number of patients	Percentage(%)
Right sided	66	47
Left sided	53	38
Bilateral	21	15

Table 4: Type of hernia

Type	Number of patients	Percentage(%)
Direct hernia	46	33
Indirect hernia	82	59
Pantaloon hernia	12	08

Table 5 Chief complaints of the patients

Complaint	Number of patients	Percentage(%)
Swelling in the groin	96	68.5
Swelling and pain in the groin	44	31.5

Table 6 Occupation of the patients

Occupation	Number of patients	Percentage(%)
Labourer	48	34
Farmer	36	26
Office worker	22	16
Shopkeeper	6	4
Vehicle driver	4	3
Kids	5	3.5
Others	19	13.5

Table 7 Comorbidities of the patients

Comorbidity	Number of patients	Percentage(%)
Benign prostatic hyperplasia	46	33
COPD	24	17
Hypertension	18	13
Diabetes mellitus	12	09
Nil	40	28

Table 8 Condition of the hernia

Condition	Number of patients	Percentage(%)
Non-obstructed	88	63
Obstructed	44	31
Incarcerated	08	6

Table 9 Management of the patient

Modality	Number of patients	Percentage(%)
Elective repai	**82**	
• Laparoscopic	32	
TAPP	25	18
PIRS	05	3.5
TEP	02	01
• Open	50	
Mesh repair	36	25.5
Tissue repair	14	10
Emergency repair	**44**	
• Tissue repair	23	17
• Mesh repair	21	15

Conservative management	14	10

Table 10 Complications in the postoperative period

Complication	Number of patients	Percentage(%)
Wound infection	16	11
Seroma formation	08	06
Recurrence of hernia	06	04
Mesh infection	04	03
Nil	106	76

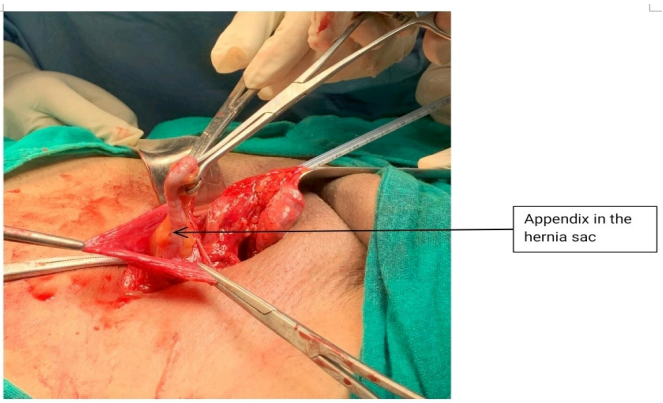

Figure 1 Amyand's hernia discovered during emergency repair of inguinal hernia.

Figure 2 TAPP repair of inguinal hernia.

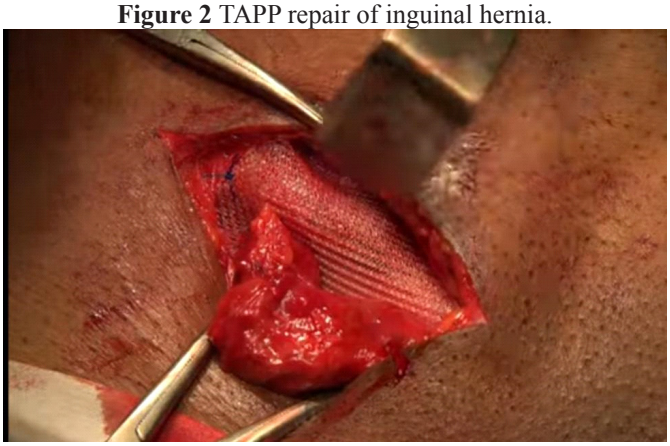

Figure 3: Mesh hernioplasty for inguinal hernia repair.

DISCUSSION

This was an observational study conducted at a tertiary care institute where 140 patients admitted as cases of inguinal hernia were included as study subjects as per the inclusion and exclusion criteria and their clinico-demographic profile was studied.

Our study showed that most of the patients were aged above 60 years, followed by patients in their 4th to 6th decade. This was concordant with a study by de Goede B, wherein age around and above 50 was the most affected age group[5]. Similar results were also concluded by the study conducted by Ruhl CE, where the hernia was more common in ageing men of the range 40-59 years[6]. Also, similar results were shown by Sayanna and Basu[7,8], where the hernia was more common in older people for more than 50 years.

The study included 137 males(98%) and 3 females(2%) which shows that inguinal hernia commonly affects the male population. Male: Female ratio was 46:1. The preponderance of males to females was also seen in other studies. Burcharth J in their study observed inguinal hernias in 90.2% males and 9.8% females[9]. Ruhl et al. also reported similar findings[6]. Lau H et al. also reported that males are more prone to have inguinal hernias[10].

In our study,the most common type of hernia was indirect type, seen in 59% of patients, followed by a direct hernia in 33%, and 8% of the patients had both direct as well as indirect hernia. Also, the most common side of hernia was on the right side seen in 47% of the patients, 38% on the left side and bilateral in 15% of patients. This was also seen in a study by Nordback, where out of 469 patients, the right-sided were 207, the left-sided 146 were left sided, and 116 were bilateral[11]. Similar was the case in the study by Gulzar et al., where out of 100 patients, 64 had right-sided inguinal hernia[12]. Garba ES from Nigeria conducted a survey and concluded that right inguinal hernias were commoner than left, with a ratio of 1.7:1.

In our study, groin swelling was the most common clinical presentation. Out of 140, 68.5% patients presented to the surgical clinic with groin swelling. This concurs with studies by Jenkins JT, where it was observed that groin swelling was the most common clinical presentation[13]. Groin pain with swelling was seen in 31.5% of the patients.

In our study, the most commonly involved population was that of labourers(34%), followed by farmers(26%), office workers(16%), shopkeepers(4%) and vehicle drivers(3%). Kids contributed 3.5% to the study population. This shows that the preponderance of males was due to their involvement in more strenuous activities, lifting heavy weights and anatomical differences between the males and the females. Also, same results were published by Rao G in 2015, where heavy weight lifting was the commonest risk factor among male fishermen[14,15].

Of the associated comorbidities, benign prostatic hyperplasia was seen in 33% of the patients while COPD in 17%, hypertension in 13% and diabetes mellitus in 9% of the study population.In the Mukesh Sangwan *et al.*[16] study, prostatism symptoms were present in around 16% of cases, while hypertension and diabetes symptoms were present in about 11% and 5% of the cases respectively.

Contents of the hernia when inspected during surgery showed that 63% patients had a non-obstructed hernia while obstructed hernia was present in 31% patients. Strangulation of gut was seen in 6% of the study population.

Patients who were fit for surgery and gave consent for the same were managed by elective or emergency surgery while those who were not fit and did not give consent for surgery were managed conservatively. Percutaneous Internal Ring Suturing(PIRS) technique was used in the kids whose parents wanted to avoid scar of open surgery. TAPP (Trans-abdominal Pre-peritoneal) and TEP (Totally Extra-peritoneal) techniques were employed for the patients who were fit for general anaesthesia and those who preferred laparoscopic repair. Patients who were not fit for general anaesthesia and most of the patients who presented in the emergency underwent repair of hernia by open technique. Mesh hernioplasty and Desarda repair were the techniques employed.

Patients were followed up in the OPD after discharge from the hospital. Post-operative complications were noted while during the hospital stay and in the followup OPD visits of the patients. 11% patients suffered local wound infection and 6% patients had seroma formation during the hospital stay. Infection of the mesh occurred in 3% of the operated patients while hernia recurrence was noted in 4% of the patients on OPD visits.

CONCLUSION

Our study concluded that majority of the patients with inguinal hernia were males above 50 years of age. Most of the study subjects were labourers or farmers by occupation, as heavy weight lifting and strenuous exercises are among the most frequently involved risk factors for inguinal hernia. Groin swelling was the chief complaint in the majority of the study population while pain associated with the swelling was reported by fewer patients. Indirect inguinal hernia was predominant in the study population. Majority of the patients had a right sided hernia followed by hernia on the left side while few had bilateral inguinal hernia. Benign prostatic hypertrophy was the commonly associated comorbidity in the study population. Majority of the patients had a non-obstructed hernia while some had obstructed hernia. Signs of gut strangulation were seen in very few patients only. Most of the patients were managed by surgical intervention(varied surgical techniques employed) while only fewer who were not fit for anaesthesia or did not give consent for surgery were managed conservatively. Majority of the patients had favourable outcomes after surgery while fewer patients suffered complications like wound infection, seroma formation, mesh infection or recurrence of the hernia.

Conflict of interest: Nil

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