

GROIN HERNIAS: PATTERN OF CLINICAL PRESENTATION

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ABSTRACT

Objective: To assess and analyze the presentation of disease, treatment options available in peripheral hospitals, postoperative complications, effects of delaying the surgery, evaluate the cost of treatment and choice of anesthesia.

Material and Methods: A retrospective study of groin hernia was carried out in surgical ward of DHQ Teaching Hospital Dera Ismail Khan from Feb. 1999 to Dec. 2002. All the cases of groin hernia were admitted to surgical ward either as elective cases or through emergency. They were analyzed for age, sex, site and type of hernia, operative procedure under local or general anesthesia, post operative complications and duration of stay in the ward. Comparison of surgeon convenience and operative cost of cases under local or general anesthesia was made.

Results: A total 654 cases (0.9% of total admissions for the same period) were admitted out of which 585(89.5%) were elective and 69(10.5%) were through emergency. Distribution of cases was uniform along different decades of life with peak in the 1st decade. Male patients were 638(97.56%) and female patients were 16(2.44%). Right side groin hernia were 423(64.8%), left side 211(32.1%) and bilateral hernia were 20(3.1%). Over all complication rate was 11.02% and no mortality was reported in emergency or elective group of patients. Hospital stay was short (3.59 days), and operation under local anesthesia was convenient for patient and surgeon.

Conclusion: Groin hernia is a common and relatively simple problem. It should be operated at the earliest and unnecessary delay can cause complications. Operation under local anesthesia is a viable alternative to general anesthesia.

Key words: Groin Hernia, herniorraphy, local anesthesia.

INTRODUCTION

Groin hernia presents as a very common problem in surgical practice¹. Since initial surgery for hernia, constant efforts are made to bring down the complications especially recurrence of hernia. Different techniques such as Bassini's, Stoppa's, Mcvay's, Leichenstein's, Darning (Moloney's), Shouldice's and laparoscopic have been evolved but no consensus on a single procedure. Choice of suture materials and use of patch or patch and plug mesh has helped to reduce the recurrence rate². With the advent of laparoscope, minimal invasive surgery is becoming the routine. All the advanced technologies seem to be fantasies in the remote areas of 3rd world countries³ due to its cost. The treatment of hernia is surgery and the main stay of surgery is tension free repair of posterior wall of inguinal canal to bring down the recurrence rate. In this part of the world where literacy rate is very low and poverty at its peak, seeking medical help is delayed and this relatively less serious disease can get complicated and result in serious consequences. This study is aimed to analyze the conventional hernia repair in the remote area like D I Khan keeping in view the available resources.

MATERIAL AND METHODS

All the elective cases were hospitalized a day before surgery while cases with complications were admitted through emergency department. Routine blood and urine analysis were carried out to exclude anemia and diabetes. In older patients and those having underlying diseases, ECG and X-Ray chest were done to exclude any predisposing or complicating factors like chronic chest infections or ischemic heart diseases. In cases admitted through emergency, clinical history, preoperative assessment, complications, treatment and postoperative complica-

tions were recorded. Blood complete, urea / sugar, ECG and electrolytes estimation were done in all cases pre operatively.

METHOD OF REPAIR

In small children, herniotomy was done alone. In adults, Bassini's repair (suturing inguinal ligament to conjoint tendon without tension) was done in indirect hernia using proline or vicryl. In case of direct hernia, after plication of fascia transversalis and hernia sac using 2/0 chromic catgut, Bassini's repair was done. In larger hernial sacs, redundant part of sac had to be excised. Suture material used was vicryl No 1 or Prolene O. Initially, prolene was used, later on it was substituted with vicryl, showing improvement in postoperative pain. The reason for replacement was postoperative pain probably due to sharp ends of suture impinging upon the cord. This problem was also sorted out by making inverted sutures with prolene. Majority of cases were done under general anesthesia, however in selected cases (thin patients with small hernia), local anesthesia was used with satisfactory outcome.

RESULTS

Total 654 cases of groin hernia were admitted during the period from Feb. 99 to Dec 2002 and total admissions for the same period were 7300, percentage of groin hernia cases was 0.9% of total admissions. The distribution of cases along different decades of life was almost uniform with increased tendency of cases presenting in younger age group (1st decade). There was higher number of cases in the first five years of life, suggestive of congenital sacs (Table-1 & Fig.1). Out of total 654 cases of groin hernia, 638(97.56%) cases were male and 16(2.44%) cases were female having male to female ratio of 40:1 (Table-2 & Fig 2). 423(64.67%) were right side hernia, 211(32.27%) were left

AGE DISTRIBUTION OF CASES OF INGUINAL HERNIA.

Age group	No of cases	% Age
01-09	135	20.64 %
10-19	65	09.94%
20-29	90	13.76 %
30-39	78	11.92 %
40-49	92	14.07 %
50-59	89	13.61 %
60 & above	105	16.06 %

TABLE-1

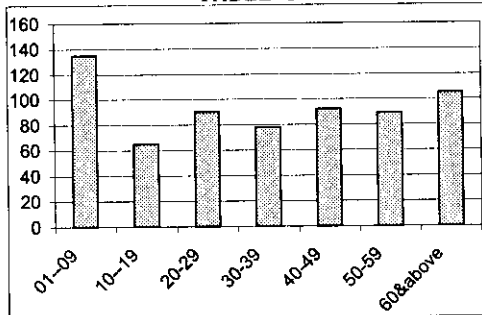


Fig. 1. Age Distribution

side and 20(3.06%) were bilateral hernia. (Table-3 & Fig 3). 535(81.8%) patients had indirect hernia, 105(16.2 %) patients had direct hernia and 14(2%) patients had double hernia while 9 cases were recurrent hernia. Out of total 654 cases of inguinal hernia, 585(89.5%) cases were admitted through OPD as elective cases and 69(10.5%) cases were admitted through casualty (Table-4 & Fig 4). Out of 69 cases admitted through casualty, 30 were irreducible, 30 were obstructed and 9 cases were strangulated. All the cases were operated the same day carrying out necessary investigations and resuscitation. Primary procedure in children was herniotomy alone while in adults, herniorraphy (Bassini's repair) was done. Material used was prolene or vicryl. The knotting had be modified with proline as the long ends of it caused pain in most cases and reduced substantially with inverted knots. Mesh was used in very few cases and Tanner's slide was given to alleviate any

TABLE SHOWING SEX DISTRIBUTION

Sex	Number	% Age
Male	638	97.56
Female	16	2.44

TABLE-2. RELATIVE DISTRIBUTION OF MALE AND FEMALE PATIENTS.

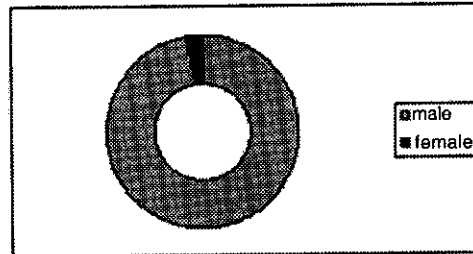


Fig. 2. Sex Distribution

tension on the suture line in cases where mesh was not used. All the patients were given antibiotics perioperatively.

Over all complication rate was (11.2%) (Table-5 & Fig 5). Incidence of wound infection was 3.2%. Infection was in the form of superficial stitch abscess, resolved with removal of affected stitch and did not need hospitalization. However, routine use of antibiotics was the main reason for low rate

TABLE SHOWING SITE OF HERNIA.

Site	Number	%age
Right	423	64.67 %
Left	211	32.27%
Bilateral	20	3.06%
Total	654	100%

TABLE-3. SHOWING SITE OF HERNIA.

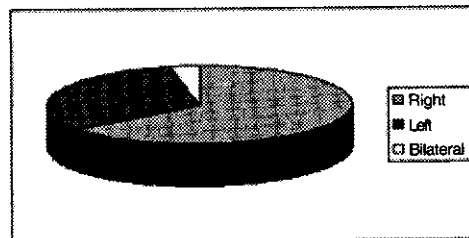


Fig. 3. Showing site of hernia.

SHOWING MODE OF ADMISSION OF HERNIA CASES.

Presentation	Number	% age
Elective	585	89.45%
Emergency	69	10.55%
Total	654	100.0%

TABLE-4

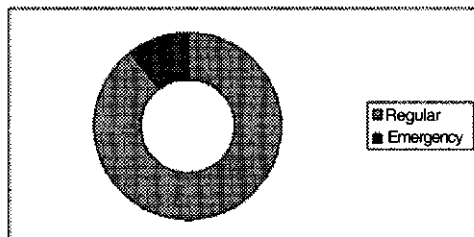


Fig. 4. Mode of admission of hernia cases.

of wound infection. Immediate postoperative pain was managed with analgesics. Delayed pain was difficult to manage and needed local steroids injection with good response. None of the patients were explored for nerves trapping. Five patients above sixty went into retention. They were catheterized and could pass urine after taking out catheter after two days. The incidence of haematoma and nerve injury was (1.02%) as expected in the hands of experienced operators. Severing blood supply to the testis resulting in atrophy of the testis was not recorded. Recurrence of hernia was 2%, with in three months time. The recurrence was mainly seen in old age patients with predisposing factors and poorly selected cases. Follow up period was ten days, three week and three months. Those lost to follow up were presumed to have no problems.

Hospital stay for the majority cases of groin hernia was 3-4 days (Table-6 & Fig 6) and average stay was 3.59 days. Majority of patients were discharged on 2nd & 3rd postoperative day. There was no mortality in our study, though cases of serious complicated hernia especially in elderly, were admitted in odd hours and

COMPLICATIONS OF SURGERY WITH RELATIVE FREQUENCY

S. No.	Complications	Number	%age
1	Wound infection	21	3.21%
2	Pain	23	3.51%
3	Retention urine	5	0.76%
4	Haematoma	7	1.07%
5	Nerve Injury	5	0.76%
6	Recurrence	13	1.98%
7	Total	74	11.31%

TABLE-5. COMPLICATIONS OF HERNIA OPERATION

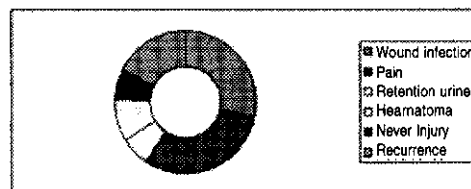


Fig. 5. Complications of hernia operation

operated mostly by junior doctors in unfavorable circumstances.

The cost of surgery is lower in the group of patients done under local anesthesia Table-7. More over the technical staff required to conduct surgery under general anesthesia is more demanding. The risk involved and postoperative care is added burden of general anesthesia.

DISCUSSION

Groin hernia is the most common surgical problem, rightly called the Bread and Butter of the surgeon. The problem is taken lightly by the patients and doctor equally. The scatter of cases is even over different decades of life, however, 1stdecades is showing high incidence. The sex ratio is (40:1) in our study. The ratio is comparable to the results reported by Manzar(57:1)⁴, Mufti and Khan(37:1)⁵, and Bailey's (20:1)⁶ respectively. The low number of female cases could be due to conservative society and social back ground.

HOSPITAL STAY (DAYS) WITH NUMBER OF CASES.

Hospital Stay	Number	% Age
1 day	4	0.61%
2 days	64	9.78%
3 days	226	34.55%
4 days	292	44.64%
5 days	49	07.50%
> 5 days	19	02.90%

TABLE-6. DURATION OF HOSPITAL STAY

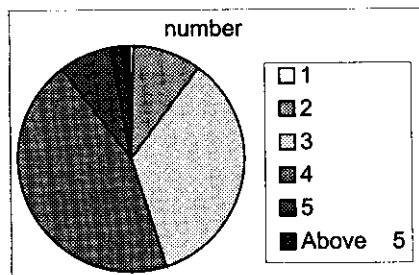


Fig. 6. Duration of hospital stay.

Groin hernia is more common on right side (64.8%) and is supported by Manzar, Mufti & Khan and Rassol⁷ (Table-8).

Postoperative complications merit special comments. The incidence of infection was 3.2% as compared to 6%⁸. The nature of infection was mild and the removal of effected stitches cleared the problem. The only reason to be given for this low rate of

postoperative infection can be the use of antibiotics, which were used therapeutically rather than prophylactic.

Technical aspects of the procedure are encouraging. Though the grade of operators was low ie Medical Officers and junior registrar in many cases, over all recurrence rate is 2% (5-10 %)⁹. Mesh hernioplasty was done in selected cases of large hernia and in recurrent hernia with no reported recurrence in our study. These figures might be higher as not all the cases were seen in the follow up, presumed to be having no problem. Majority of cases were done under general anesthesia, however, in selected cases local anesthesia was used and the procedure completed with out any difficulty. This indicates that patients with small hernia and thin body can be operated upon under local anesthesia^{10,11}.

Postoperative pain was acceptable (3.3%). The initial results with higher rate of postoperative pain ware reduced substantially by modifying the suture techniques, inverting the knot so that the sharp end of proline will not impinge upon the spermatic cord. Sever neuralgic pain in a sin-gle case, responded to local steroid injection.

COST COMPARISON OF CASES DONE UNDER LOCAL/GENARAL ANESTHESIA.

Cost of Operation under local anaesthesia		Cost of Operation under general anaesthesia	
Local injection One	Rs 16/-	Inj pentothol	Rs 50/-
Distilled water Two	Rs 6/-	Inj succinyl	Rs 55/-
Disposable syringes	Rs 8/-	Inj tracrium Prostagmin	Rs.160/-
		Analgesic injection	Rs 30/-
		D/Water Disposable syringes	Rs 40/-
		Halothane / oxygen	Rs. 200/-
Suture materials	Rs 400/-	Suture materials	Rs 400/-
Gause, sticking gloves etc.	Rs 100/-	Gause sticking gloves etc.	Rs 100/-
Total	Rs 530/-	Total	Rs 1035/-

TABLE-7. COMPARISON OF COST OF SURGERY UNDER LOCAL / GENERAL ANESTHESIA.

COMPARISON OF SITE OF INGUINAL HERNIA.
DIFFERENT STUDIES

SITE	Right	Left	Bilateral
This series N=654	423(64.8%)	211(32.1%)	20(3.1%)
Manzar N Shah N=810	471 (58.1%)	263 (32.5%)	76 (9.4%)
Mufti & Khan NWFP, N=343	56%	35%	6%
Rasool, R. Pindi N=204	126(61.76%)	60 (29.42%)	18 (8.82%)
Sattar Memon Jamshoro N=334	221 (63.2%)	109 (32.6%)	14 (4.2%)

TABLE-8. SITE OF INGUINAL HERNIA IN DIFFERENT SERIES.

Delaying the elective surgery, 10% of cases presented in emergency and threatened the life the patients. There was no mortality in our study. Hospital stay was shorter as compared to other studies (3.59 days) compared to 6 days⁵.

CONCLUSION

To keep the morbidity and mortality at low level, awareness among public needs to be propagated to ensure early surgery. Long waiting lists are to be avoided. Further day case surgery under local anesthesia, needs to be encouraged and it will reduce hospital stay and total cost of surgery.

REFERENCES

1. Memon AS, Memon JMA, Ali SA. Inguinal Hernia. J Coll Phys Surg Pak; 1993; 3(2): 50-3.
2. Ahmad S, Parwaiz N, Mehmood MT. Leichtestein's repair with polyester (mer-silene) mesh for inguinal hernia. 1999; 15(1&2): 19-21.
3. Malik ZI, Ahmad E, Ayub GH. Lichtenstein repair. J Surg 1993; 5: 18-21.
4. Manzar S. Inguinal hernia incidence- compli-cations and management. J Coll Phys Surg Pak 1992; 2: 7-9.
5. Mufti TS, Khan MA. A study of incidence of external hernias in NWFP. J Pak Med Assoc. 1982; 32: 119-21.
6. Kingsnorth A, David H. Bennett. Hernias. Umbilicus, abdominal wall. In: Russell RCG, Williams NS and Bulstrode C J K, Baily H. Short practice of Surgery. 23rd ed London: PP 1146.
7. Rasool MI, Idrees A, Iqbal M, Qayoon F. Inguinal hernia clinical presentation, Rawal Med J 1992; 20(1):23-6.
8. Bhatti AZ, Rasool M. Darning vs Bassini's repair in primary unilateral inguinal hernia. J Coll Physicians Surg Pak 2002; 12(3): 169-71.
9. Aslam M, Arain GM. Inguinal hernia day case surgery: study of 100 cases. Biomedica 2002; 18: 70-3.
10. Johnstone JMS, Rintoul RF. Abdominal herniae. In: Rintol RF Farquharson's text book of operative surgery Rintoul R F 8th ed. London. Churchill Livingstone 1995; 527.
11. Hair A K, Duffy J. Mclean, et al. Groin hernia repair in Scotland, Br J Surg 2000; 87:1722-6.

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