

Clinical profile and management of inguinoscrotal swelling in pediatric age group

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Abstract

Present study was undertaken in the department of Surgery from October 2013 to September 2015. 50 Children below 12 years age were selected for study who were present with inguinoscrotal swelling. Acute cases were excluded from study. In total 50 cases there were 28 (56%) cases of inguinal hernia, 14 (28%) cases of hydrocele. 4 (8%) cases of undescended testis, 1(2%) case of each enlarge inguinal lymph node, scrotal sebaceous cyst and lipoma of the cord. Maximum incidence of cases between age group from 1-5 years (60%) with male:Female ratio is 7.3:1. Right side inguinoscrotal swelling most common (68%). All patient of inguinal hernia were indirect type. Herniotomy was performed in hernia and hydrocele, orchiopexy in undescended testes. Inguino scrotal swelling are frequently encountered in the surgical practice, especially in children. It is also important to study the factors which are associated with inguinoscrotal swelling. Inguinal hernia will not resolve spontaneously, it should be repair as soon as possible after diagnosis because risk of incarceration or strangulation.

Keywords: swelling; inguinal hernia; hydrocele; children

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INTRODUCTION

Swelling is heart of surgery. Inguinal and scrotal swellings in children are frequently encountered in the surgical practice. Most of these swellings are congenital and they have an asymptomatic presentation. They are related to the descent of the testes and the processes vaginalis.¹ To date, the mechanism of the testicular descent is speculative, with various hypotheses being put forth, the most recent one being that of "WATER-TRAP" which was made by Heyns and Deklerk. The abnormalities in the descent result in ectopic or undescended testes. Inguinal hernia, hydrocele, undescended testis etc are various differential diagnosis

of inguinoscrotal swelling. Hernia is a latin term meaning 'rupture of a portion of a structure.' It can be defined as "protrusion of a viscus or a part of a viscus through a normal or an abnormal opening in the wall of its containing cavity."² As a result of improved neonatal intensive care, more and more premature babies are being delivered and consequently the incidence of neonatal inguinal hernia and hydrocele is increasing. Inguinal hernia remains one of the most common surgical disorders in children. Literature for inguinal hernia has spanned more than 20 centuries and with new techniques there have been new insights into management as well. Inguinal hernia is a perfect example of a disorder where seemingly a lot has changed whereas in effect nothing much has changed. Aim and objectives: The aim of our study is to study age, sex, side wise distribution of inguinoscrotal swelling; association with prematurity; complication of swellings like strangulation, incarceration; association of congenital anomalies and post operative complication like wound infection, scrotal edema.

MATERIAL AND METHODS

This study was carried out from Oct 2013 to Sept 2015 under Department of Surgery under Govt Medical

College and hospital. Fifty random patients presented with inguinoscrotal swelling below 12 years of age were selected. children with acute symptoms like epididymoorchitis, torsion testis and malignant swelling were excluded. A detailed history, general and systemic examination followed by specific examination of groin was done. All relevant investigation for surgery was done, postoperatively patient were followed up. The gathered information was analysed in terms of age, diagnosis, procedure carried out and outcome.

RESULTS AND OBSERVATION

In total 50 cases of pediatric inguinoscrotal swelling there were 28 (56%)cases of inguinal hernia, 14 (28%) cases of hydrocele. 4 (8%) cases of undescendent testis, 1 (2%) case of each enlarge inguinal lymph node, scrotal sebaceous cyst and lipoma of the cord. Inguinal hernia and hydrocele were most commonly seen while scrotal sebaceous cyst and lipoma of the cord were rare presentation. The inguinal hernia was most common among male children (88%) thereby giving a ratio of M: F=7.3:1. The children were aged 5 months-12 years and most of the patients presented around 1 to 5(60%) years and prematurity noticed in 12% of cases. Right sided (68%) inguinal hernia was more common than left (26%). Associated congenital anomaly is found in 4 cases out of which hypospadias in 1 case and renal anomaly like posterior urethral valve seen in other cases. In 14 cases of hydrocele, 12 were on the right side and 1 were on the left, and 1 was bilateral. 1 case was of encysted hydrocele of the cord. All of them had

patent proximal processus vaginalis which suggest all cases were having indirect inguinal hernia. No case was found of direct inguinal hernia. The most common abdominal organ found in the sac was small intestine followed by omentum. In all cases high ligation of hernial sac was performed. For female patients, the hernial sac was always widely opened and inspected for the entrapment of ovary or other structures before twisting and ligating at its neck. The post operative hospital stay ranged from 6 hours to 2 days, average being 1.2 days. . The 4 (8%) undescended testes were seen in all of which testes was in the superficial inguinal pouch. They had undergone orchiopexy, the testis was kept in the subdartos pouch. In the post operative period of 50 children, there were 2 cases of scrotal edema, 1 case of wound infection and 1 cases had wound hematoma. All of them responded to conservative treatment. During the period of study and follow up period of 12 weeks to 52 weeks no cases had recurrence.

Table 1: Incidence of the cases of inguinoscrotal swelling

DIAGNOSIS	Number of cases	Percentage (%)
INGUINAL HERNIA	28	56
HYDROCELE	14	28
ENCYSTED HYDROCELE OF CORD	1	2
UNDESCENDED TESIS	4	8
Inguinal lymphadenopathy	1	2
Scrotal sebaceous cyst	1	2
Lipoma of the cord	1	2
Total	50	100

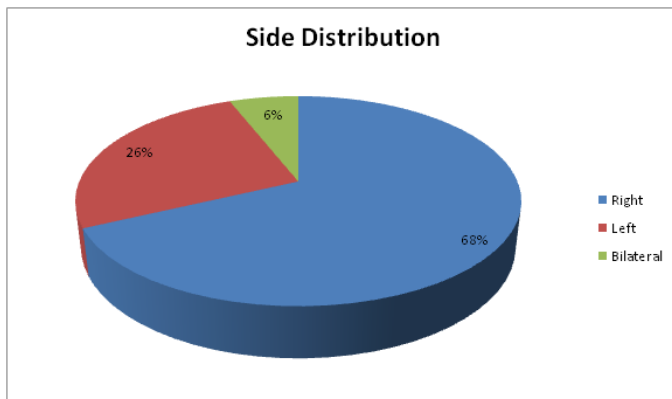


Figure 1

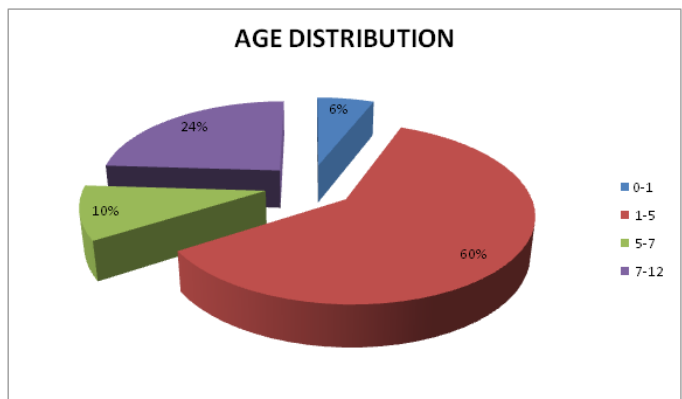


Figure 2

Legend

Figure 1: Pie diagram showing side distribution of inguinoscrotal swelling

Figure 2: Pie diagram showing age distribution of various inguinoscrotal swelling

DISCUSSION

In the general population, the incidence of inguinal hernia is not precisely known, however, in controlled population based studies, there are between 10 and 20

inguinal hernias per 1000 live births.³ The present study consisted 50 cases of inguinal, inguino-scrotal or, scrotal swellings in pediatric age group. Out of 50 cases, forty two cases were either inguinal hernia or hydrocele.

In the study of 50 cases, the youngest patient was 5 months of age and oldest was 11 years old. 76% of cases were between 5 months to 7 years. This was according to various studies conducted like Okunribido *et al*⁴ study also shows 76% of cases between 5 months to 7 years. Adesunkanmi AR *et al*⁵ study also shows 71% cases were between 5 years and below. In all the studies of inguinal hernia in children, there is male preponderance. In our study 88% were boys and M:F ratio were 7.3:1. The result were same like previous various studies, According to Grosfeld J.L.⁶ study M:F ratio was 7:1, William B Keisewetter⁷ shows M:F ratio 6:1.

Childhood inguinal hernias are generally more predominant on the right side and this has been attributed to the delay in descent of the right testis. B/L cases were evaluated for intersex and connective tissue disorder but were not associated. In our study 68% were on right side 26% were on left side, results were similar to study by Michel Gilbert *et al*⁸ showed 63.5% right side, 27% were left side 9.5% were bilateral. Direct inguinal hernias in children are rare and represent 0.5% to 1% of all groin hernias. In our study all cases were found to have indirect hernia. According to Fonkalsrud *et al*⁹ study 0.2% cases were direct hernia. During the course of this study, 4 (8%) cases of undescended testis were detected which were situated in the superficial inguinal pouch. These patients had orchiopexy at the time of hernia repair and testis was placed in the subdartos pouch. According to Orver Swenson¹⁰, the commonest site for undescended testis is superficial inguinal pouch. From this study we can notice that commonest site is superficial inguinal pouch. Out of 50 cases in this study, association of hypospadias was observed in 1 (2%) case. According to Andre Hebra¹¹, hypospadias is associated with an increased risk of inguinal hernia.

CONCLUSION

Inguinal hernia and hydrocele in children remain one of the most common causes of pediatric inguinoscrotal swelling. Inguinal hernia and hydrocele in children is the most common congenital anomaly observed by surgeons and scrotal sebaceous cyst and lipoma of the cord were rarely seen. The threat to loss of testis, ovary or a portion of bowel due to

incarceration or strangulation remains. Prompt diagnosis and early treatment of the inguinal hernia continues to be the mainstay if these complications are to be avoided. The childhood inguinal hernias are generally more predominant on the right side and this has been attributed to the delay in descent of the right testis. Regarding the sex prevalence, males are more commonly affected. Congenital anomalies like undescended testis and hypospadias can be associated with inguinal hernia and hydrocele. In the case of undescended testis, orchiopexy should be done at the time of hernia repair. USG is a good alternative tool for diagnosing CPPV. An inguinal hernia will not resolve spontaneously and should be repaired as soon as possible after the diagnosis because of the risk of incarceration or strangulation. Post-operative complications are usually rare following elective operation whereas minor complications do occur after emergency operation.

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