

Is Contralateral Inguinal Exploration Justified in a child presenting with unilateral inguinal hernia?

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ABSTRACT

Aim: To analyze retrospectively the occurrence of hernia or hydrocele in patients who have already undergone unilateral inguinal herniotomy.

Design: Retrospective descriptive study

Place and duration: Paediatric Surgery Department, Services Hospital, Lahore from May, 2011 to May, 2014

Results: 1195 patients underwent inguinal herniotomy for unilateral inguinal hernia or hydrocele. Their address and cell numbers were recorded and they were put on regular follow up. The mean duration of follow up was six months to two and half years. All patients were analyzed for swelling on contralateral inguinal swelling. Only 8 patients presented with contralateral swelling during three and half years of follow up period. These patients were evaluated for other predisposing factors. Among 1195 patients, inguinal hernia was more common in boys than girls (7.8:1) with predominantly involving right side (56%) followed by left side (37.01%) and bilateral inguinal hernia (6.7%). About one quarter (26.3%) of patients were in infantile age with a mean age of presentation being 49.9 months. Almost half of patients were referred from the periphery of the province. Complication rates were minimal; however scrotal swelling was found in 4.3% of patients postoperatively. Most commonly found associated anomaly encountered with inguinal hernia was undescended testis.

Conclusion: Contralateral inguinal exploration is not statistically justified in patients presenting with unilateral inguinal hernia or hydrocele. Although the inguinal hernia is a common surgical condition and inguinal herniotomy is one of the most commonly performed surgery and it is associated with minimal post operative complications, unnecessary contralateral exploration may increase the post operative morbidity, doubles the complication and may increase the post operative hospital stay.

Keywords: Inguinal hernia, inguinal exploration, unilateral

INTRODUCTION

Inguinal hernia in children is quite a common presentation and inguinal herniotomy is a frequently done procedure in children for inguinal hernia and hydrocele¹. The reported incidence in children ranges from 0.8% to 4.4%. Hernias are much more common in boys with male/female ratio ranging from 3:1 to 10:1². Approximately 60% are seen on the right side due to later descent of right testis and delayed obliteration of processus vaginalis. Twenty five percent of patients have left sided hernia and remaining fifteen percent had bilateral inguinal hernia²⁻³.

The etiology of inguinal hernia and hydrocele is the persistence of processus vaginalis which is due to drag of peritoneum along with descending testis. The inguinal hernia results from delayed or failure of obliteration of this peritoneal fold¹⁵. Although the presence of processus vaginalis may be bilateral there is controversy regarding the routine exploration of contra lateral inguinal exploration in patients under

going inguinal herniotomy for unilateral inguinal hernia or hydrocele¹⁶. This is because of the fact that simple persistence of patent processus vaginalis does not mean that the individual will become symptomatic in future.

One third of all the children presented to surgical centers with inguinal hernia are younger than six months. In preterm babies, the incidence is as high as 30%. Near 40% of patients with a clinical unilateral inguinal hernia display a patent processus vaginalis on the contralateral side⁴. But the simple persistence of processus vaginalis is not always ensure to become symptomatic in future.

Incarceration occurs in almost one-third of patients with inguinal hernias. It is common in children less than one year of age and males. Prolonged incarceration is one of the causes of testicular infarction⁵. The studies have confirmed that the incidence of inguinal hernial complications are very much as compared to adult. From this we conclude that we should not leave the contralateral side unexplored if the data suggest that in significant number of patients the control side become symptomatic.

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On the other hand no surgical procedure is without complications. So the unnecessary surgical interventions should not be performed. Recurrence of hernia, vas deferens injury, wound infection, hematoma and postoperative hydrocele are associated complications after herniotomy but occur with a frequency of less than 1%. Although it is a frequently done procedure in any pediatric surgical center, post-operative complications are still reported. Post herniotomy complication rates vary in different series. Most recurrences occur two years after the initial surgery^{5,6,7}.

PATIENTS AND METHODS

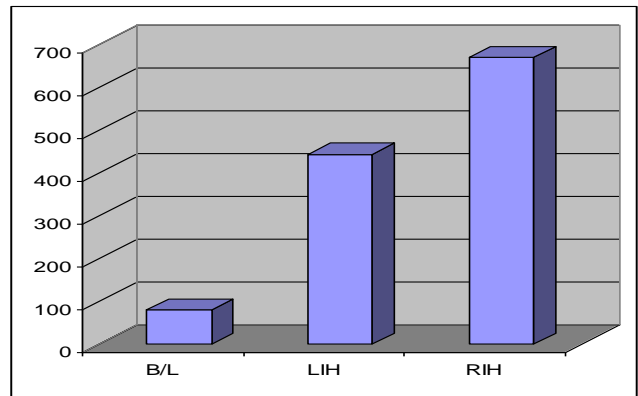
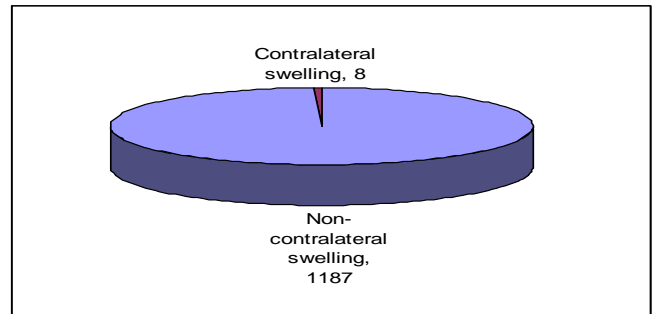
This retrospective study was conducted at the Paediatric Surgery Department of Services Hospital, Lahore, Pakistan from May, 2011 to May, 2013. Services Hospital is a government owned teaching hospital in Lahore which receives its patients from local areas. As it is a tertiary care facility we also receive referrals from the whole of the province. All the patients up to age of 12 years presenting in OPD and emergency with inguinal hernia were included in the study. Demographic details age, gender and address were noted. Side of inguinal hernia and postoperative complications including wound infection, hematoma formation, hydrocele development, iatrogenic testicular ascend and recurrence were noted during follow up for 2 years to 6 months. We receive the cell number of their parents. During this follow up period we assessed any evidence of contralateral inguinal swelling.

RESULTS

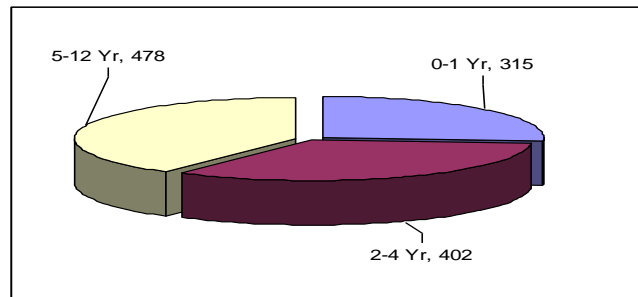
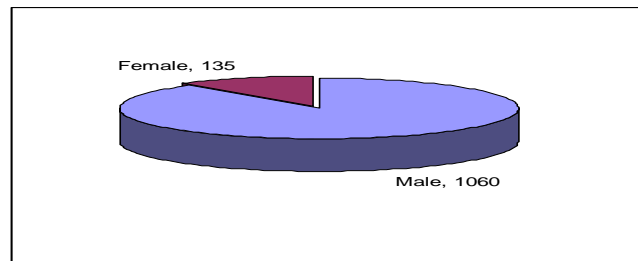
A total of 1195 patients were included in the study. Mean age of presentation was found to be 49.9 months. During our post operative follow up only 8 (0.67%) patients presented with contra lateral inguinal swelling after unilateral inguinal herniotomy. Among 1195 patients, infants were 315 (26.3%), patients with 1-4 years of age were 402 (33.6%) and those of 5-12 years of age were 478 (40%). Total male patients were 1060 and female patients were 135 with male to female ratio of 7.8:1. Total of 48 patients (4%) presented in emergency with obstructed/ incarcerated hernia. Bilateral inguinal hernia was found in 81 patients (6.7%); right side was involved in 67 patients (56%) and left side was involved in 444 patients (37.1%). Right side was predominantly involved with right to left ratio of 1.5:1. Postoperatively recurrence occurred in 9 patients (0.75%), wound infection in 6 patients (0.5%), iatrogenic testicular ascend in 2 patients (0.16%) and mortality occurred in 1 patient. Most commonly found

complication was testicular hematoma formation in 52 patients (4.3%). Most common associated pathology was hydrocele in 301 patients (25.2%) followed by undescended testis in 55 patients (4.6%). Patients resident of Lahore were 561 (47.4%) and 634 (52.6%) were referred from periphery.

Contralateral inguinal swelling



Male to female ratio



DISCUSSION

Abdominal wall hernias are common, with a prevalence of 1.7% for all ages and 4% for those aged over 45 years. Inguinal hernias account for 75% of abdominal wall hernias, with a lifetime risk of 27% in men and 3% in women⁸. So the inguinal hernia surgeries are one of the most commonly performed surgical procedure in all age groups.

In adult and elderly patients the etiology of inguinal hernia is raised intra abdominal pressure and there is usually a wide internal ring therefore watchful waiting is an acceptable option for men with minimally symptomatic inguinal hernias. Delaying surgical repair until symptoms increase is safe because acute hernia incarcerations occur rarely⁹. It is recommended that symptomatic inguinal hernias are treated surgically¹⁰.

In children the etiology of inguinal hernia is persistence of processus vaginalis. If untreated the complication rate is high. So in contrast to adult population it is necessary to perform the herniotomy as soon as possible¹¹.

Like every surgery hernia surgery is associated with various complications. Chronic pain is a significant problem after open groin hernia repair¹². It may be worse after surgery for a recurrent hernia. Recurrence of hernia is also a known complication although rare in children and is more linked with techniques like Bissini's repair⁽¹³⁾. It is also noticed that recurrence rate increases with advancing age¹⁴. In our study we analyzed the postoperative complications in paediatric patients who underwent inguinal herniotomy in department of Pediatric surgery Services hospital Lahore from May, 2011 to May, 2014. A total of 1195 patients were included in our study. We followed the patients post operatively for two years.

The male to female ratio was observed to be 7.85:1 (1060 males and 135 females). Bilateral inguinal hernia was noted in 81 patients. Left inguinal hernia was found in 444 patients and 670 patients were having right inguinal hernia. Fifteen patients showed recurrence of hernia. Six patients had postoperative wound infection. Two patients had high testes in their postoperative period. None of the patients had hydrocele.

As above mentioned data suggests that herniotomy is a safe procedure and if timely done it prevents the complications of inguinal hernia. We analyzed the appearance of inguinal hernia on the

contralateral side after unilateral inguinal herniotomy. We concluded that the contralateral exploration is not justified unless it is symptomatic.

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