

# Is Routine Contralateral Inguinal Exploration Justifiable During Every Paediatric Unilateral Inguinal Hernia Repair?

K Vagholkar, K Dastoor

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## Abstract

Unilateral inguinal hernia is one of the commonest surgical conditions seen in paediatric population. Either the traditional open or laparoscopic approach can be utilised for repair. Controversy still continues as to whether contralateral inguinal exploration should be routinely performed during the primary procedure to prevent development of metachronous inguinal hernia. Open method still continues to be the gold standard not only for unilateral congenital inguinal hernias but for recurrences after laparoscopic repair.

A case of congenital inguinal hernia treated laparoscopically with preventive repair for a contralateral inguinal hernia with recurrence is presented to highlight the shortcomings of the approach along with a review of literature.

## INTRODUCTION

Inguinal hernia repair is one of the commonest general surgical procedures performed in the paediatric age group of patients. The advent of laparoscopy has added an additional dimension to the surgical armamentarium for such patients. Though laparoscopy enables the surgeon to visualise the entire pelvis, including the inguinal region yet controversy still continues as to whether the exploration of the contralateral inguinal region should routinely be performed during the course of every unilateral inguinal hernia repair in children. A case of congenital unilateral inguinal hernia repaired laparoscopically along with exploration of the contralateral inguinal region followed by a recurrence on the contralateral side is reported along with the review of literature.

## CASE REPORT

A 7 year old boy presented with a right inguino-scrotal swelling. The mother noticed a left sided scrotal swelling which used to increase in size during the day and on straining one year back. The patient underwent laparoscopic surgery for the repair of the left sided congenital hernia at a paediatric surgical facility. As per the operative notes, the contra lateral inguinal region was also explored in the same sitting. A contra lateral sac was identified and dealt with. Exact details regarding the nature of the procedure performed for the contralateral side were not available. Three months later the patient presented with a right sided

inguino-scrotal swelling which increased progressively over a period of time. A laparoscopic approach was again attempted by the same paediatric surgical team to repair the recurrent hernia. Within 1 month of this procedure the patient again presented with a recurrence on the right side. The size of the swelling was large as compared to those seen on previous occasions as described by the mother. (Figure 1) The patient was then referred to our centre. On clinical examination the patient had a large right sided inguinoscrotal swelling with a visible and palpable impulse on coughing. The contents of the hernia sac were intestinal loops and could not be completely reduced. In view of multiple laparoscopic attempts being made by the previous team, anticipating a distorted and complicated anatomy of the region a decision to perform open surgery was taken. Through a traditional groin incision the sac was identified and dissected from the base of the scrotum to the neck taking utmost care to avoid damage to the testis and delicate cord structures. (Figure 2) Having identified and delineated the neck of the sac all around a herniotomy was performed after having opened the sac and ensuring complete reduction of contents. Transfixation and ligation of the sac at the neck was done with non-absorbable suture material, namely 3-0 polypropylene. Post-operative recovery was uneventful. Patient has been following up for the last 6 months without any complaints.

**Figure 1**

Clinical photograph showing scars of multiple laparoscopic trocar puncture marks along with a large recurrent right inguinal hernia



**Figure 2**

Intraoperative photograph showing the completely dissected large and thickened hernia sac



## **DISCUSSION**

Laparoscopy for treatment of congenital inguinal hernia in the paediatric population seems to have a few advantages over the open procedure. But whether these advantages translate into higher success rates and reduced recurrence is still a matter for continued debate. [1]

The commonest presentation is usually a left sided inguinal hernia. [2] This can be approached either by the traditional open method or by a laparoscopic approach. During the course of this procedure an exploration of the contralateral inguinal region was usually advocated in view of the presence of a latent hernia sac. In case this sac is detected, a repair to deal with this asymptomatic sac can be performed with ease in a laparoscopic approach as compared to an open approach. This remains the only advantage of a laparoscopic approach over an open approach. The chances of metachronous contralateral hernia following repair of a unilateral lesion is variable. [3] Though various studies have been performed to evaluate the various predisposing factors yet none of these studies have yielded statistically viable

conclusions.[3,4] The number of procedures performed on a preventive basis for metachronous congenital hernias fails to outweigh the statistical advantages in prevention. For boys and girls together, 14 preventive procedures may help prevent 1 metachronous congenital inguinal hernia, whereas in boys 10 preventive procedures may help prevent development of 1 metachronous hernia.[2] Therefore the debate still continues as to whether it is worthwhile performing routine contralateral inguinal explorations for prevention of metachronous inguinal hernias.[4]

In the case presented the question as to whether a right sided metachronous inguinal hernia would have developed if the region was left unexplored at primary surgery remains unanswered. [5] Performing laparoscopy at the time of primary surgery entailed creation of a pneumoperitoneum which gave rise to increased intra-abdominal pressure which may have perhaps lead to opening of a latent sac rendering the hernia clinically symptomatic. Dissection in the area during the course of inguinal exploration heightens the chances of opening or creating tissue planes which may add to the potential of opening a partially obliterated sac. A second laparoscopic attempt to repair the recurrent right sided metachronous inguinal hernia may have also added to the pathology predisposing to conversion to a large clinically manifest hernia. When the recurrence was approached by us with the open method, a large thick walled sac was identified almost assuming the adult form and size. This again raises another question as to whether recurrent laparoscopic attempts at repair upstage the pathology during the natural course of the disease.

Such complex situations are best dealt with by an open approach which allows improved dexterity for dissection without causing any damage to the peritoneal contents. The scar induced by open surgery is hardly seen in the pediatric population. This therefore cannot be enlisted as a disadvantage of the open technique. Proponents of laparoscopic approach always hedge their arguments on three main issues: quick recovery, less pain and less scarring. But what matters in the surgical context is how

perfectly the primary pathology was dealt with. If controversy continues to shroud this issue, it is best to adhere to the traditional open method. None of the studies comparing laparoscopic approach versus open approach are able to clearly demarcate a distinct advantage of laparoscopic over open approach. [6, 7]

## **CONCLUSION**

Open approach for repair of a clinically symptomatic congenital inguinal hernia without contralateral exploration of the inguinal region for preventing metachronous inguinal hernia is a safe practice. Laparoscopy is an alternative approach for repair of congenital inguinal hernias. However recurrent cases are best dealt with by open method.

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**Author Information**

**Ketan Vagholkar, MS, DNB, MRCS, FACS. Professor**

Department of Surgery Dr.D.Y.Patil Medical College

Navi Mumbai, MS, India

kvagholkar@yahoo.com

**Khojasteh Dastoor, DNB Senior Resident**

Department of Surgery Dr.D.Y.Patil Medical College

Navi Mumbai, MS, India