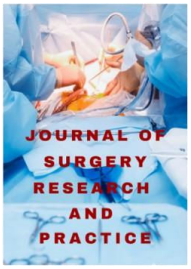

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Case Report

Laparoscopic Repair of Paediatric Pantaloon's Hernia: A First Case Report

Davera Saket[1*]

[1]Paediatric Surgery, Command Hospital Air Force, Bangalore-560007, Karnataka, India

***Correspondence author:** Davera Saket, MCh Paediatric Surgery, Command Hospital Air Force, Bangalore-560007, Karnataka, India; Email: docsak.iaf@gmail.com

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Abstract

Inguinal Hernia has an incidence of up to 4% in Paediatric age group. Most of them comprise Indirect Inguinal Hernias. Other types of Hernias are very rare in Paediatric age group. We present the first reported case of Laparoscopic repair of Pantaloon's Hernia in Paediatric age group. The patient is presently at three months follow-up post-surgery, with no recurrence of hernia.

Keywords: Inguinal Hernia; Pantaloon's Hernia; Paediatric Age

Introduction

The reported incidence of Inguinal hernias in Pediatric population is 3-4%. Nearly all of inguinal hernias in children are indirect hernias (>95%), resulting from failure of the peritoneal vaginal process to close prenatally during foetal development. Before the advent of laparoscopy, atypical inguinal hernias were often not recognized primarily, but were diagnosed once recurrence made an extensive exploration and reoperation necessary. In pre-laparoscopic era, atypical paediatric inguinal hernias (femoral, direct, and rare inguinal hernias) were considered to be extremely rare, amounting to <2% of all inguinal hernias [1].

However, with application of laparoscopy in paediatric inguinal repairs, the incidence has seen a slight rise, accounting for up to 5 to 7% of all inguinal hernias in children [2]. Owing to their rarity of existence and lack of wide spread application of laparoscopy in repairs of paediatric inguinal hernias, no standardized repair technique exists for laparoscopic repair of rare paediatric inguinal hernias.

Case Report

An 8 Month old male child, weighing 6 Kg, with no significant antenatal and post natal history, with no h/o prematurity, presented with insidious onset, slowly progressive Rt inguinal bulge noted by parents since 03 months. The bulge was prominent on crying and reduced on sleeping. Clinical and radiological evaluation was suggestive of a reducible Rt Inguinal Hernia. Following parental counselling and pre-operative work-up, patient was taken up for Laparoscopic Herniotomy.

However, on per operative evaluation, two defects were detected, both lateral and medial to the Rt inferior epigastric vessel (Fig. 1). A standard Laparoscopic Trans-Peritoneal Purse-string suture (TPP) repair of Indirect hernia was carried out using No 4-0 Polyglactin 910 suture (Fig. 2). The Patient had an uneventful post-operative recovery and was discharged on post-operative day-1. Patient is presently on follow-up and is free of any recurrence at 03 month post-surgery.

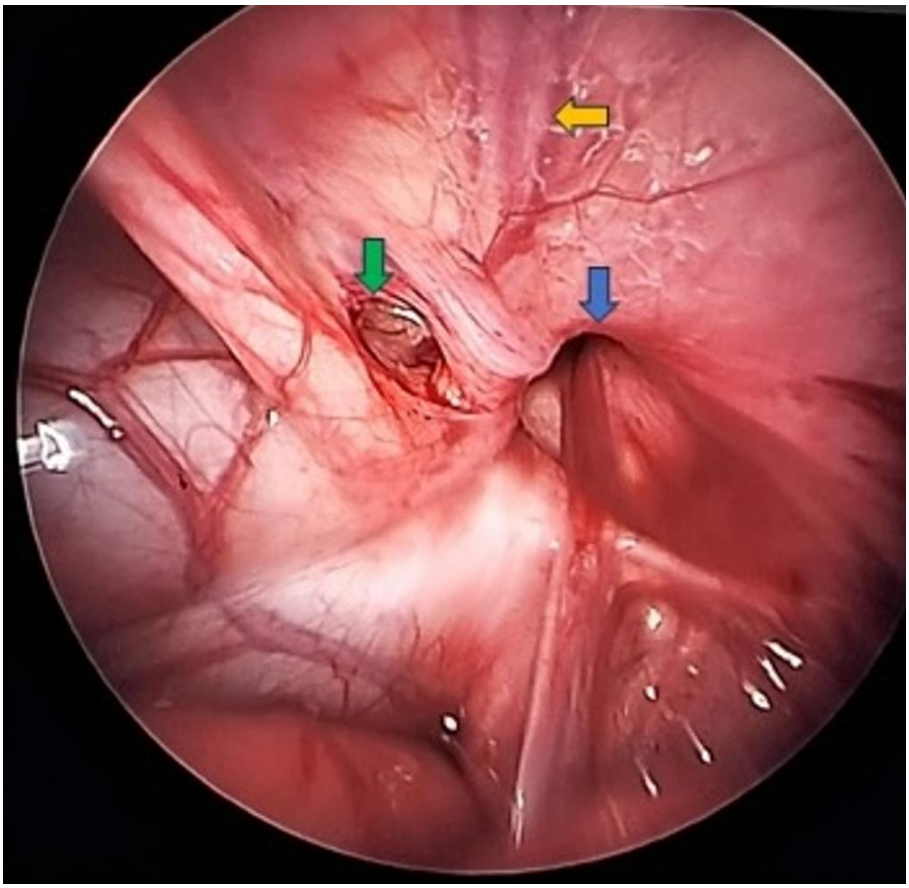

Figure 1: Laparoscopic appearance of paediatric Pantaloon's Hernia. Blue Arrow: Open deep inguinal ring; Green Arrow: Direct defect; Yellow Arrow: Inferior epigastric vessel.

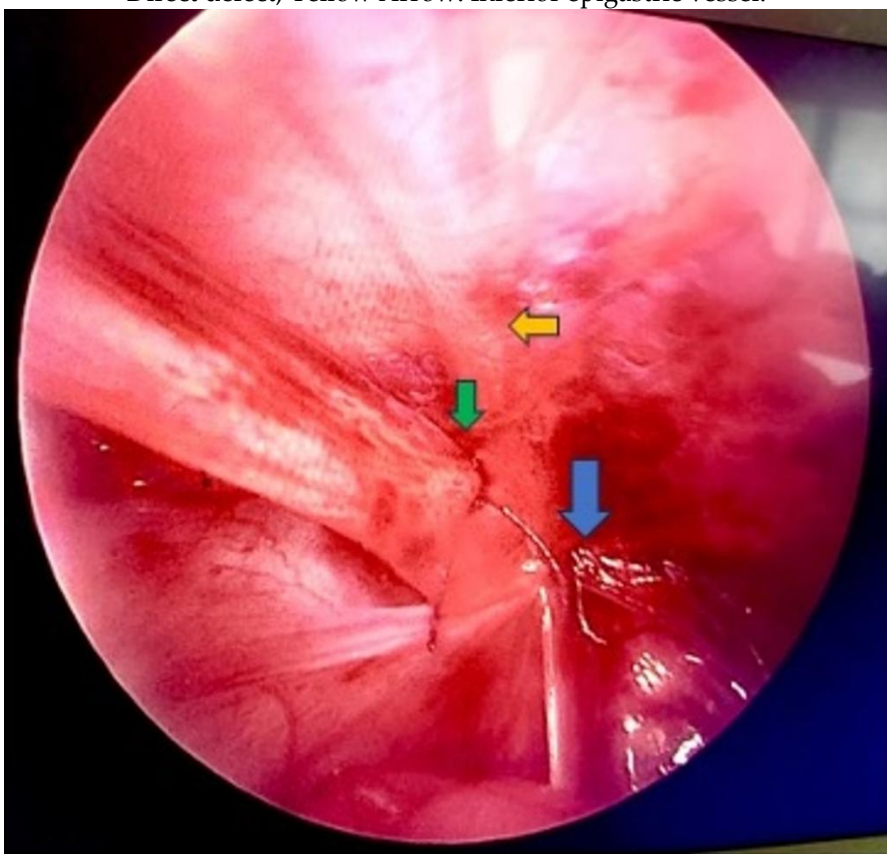

Figure 2: Post laparoscopic repair of both defects. Blue Arrow: Open deep inguinal ring; Green Arrow: Direct defect; Yellow Arrow: Inferior epigastric vessel.

Discussion

The overall incidence of inguinal hernias in children <18 years of age has been estimated between 0.8 and 4.4% [3]. Schier, et al., have described the incidence of uncommon hernias in Pediatric age group at 3-5% of all pediatric Inguinal hernias, of which, direct hernias comprise majority (81%) [2].

Various authors have reported other hernias having a rare incidence of lee than 4% of this category, making them an extreme rarity in Paediatric population [4,5]. As encountered in our case, Pantaloon's hernia are extremely rare in Pediatric age group, comprising <1% of atypical inguinal hernias.

Although Open Herniotomy continues to be gold standard of treatment for Pediatric Inguinal Hernias, Laparoscopy has in recent times established itself as an equally effective modality for surgical correction of pediatric hernias [6,7].

The identification of atypical inguinal hernias in children has seen a rise owing to laparoscopy, which provides better visualisation of landmarks, and also inflating the abdomen with pressure facilitates prolapse of the peritoneal sack through the abnormal opening [8].

One of the largest case series of Pediatric Laparoscopic hernia repair is by Shalaby, et al., who have performed 1184 laparoscopic inguinal hernia repairs in 874 children, and have not encountered a single case of Paediatric Pantaloons' hernia [9]. Schier, et al., performed 621 laparoscopic inguinal hernia repairs in 452 children, again without encountering Pantaloon's hernia [2]. Few case reports exist of discovery on suspicion and repair during open herniotomy [10].

However, due to rare nature of uncommon paediatric hernias, a standardised repair technique in laparoscopic repair of these hernias does not exist. Hence, in our case, the presence of a concomitant direct defect was a surprise and posed a challenge owing to the above reason, and also owing to the technical difficulty arising out of highly restricted abdominal domain in an 8 month 6 Kg child. After due deliberation, a cross-stitch suture closure of the direct defect was carried out using No 5-0 Polyglactin 910 suture. The patient is at 03 month follow-up post-surgery and is free of any recurrence.

To the best of the author's knowledge, and also through peer group discussion and literature search, the author has not come across any case report/ series of Laparoscopic Pantaloon's hernia repair in children, and humbly submit this case report as the first case of Laparoscopic repair of both defects of Pantaloon's hernia in Paediatric age group.

Conclusion

Although rare, Paediatric surgeons performing open and laparoscopic inguinal hernia repairs should keep the existence of these entities in mind, and should look out for them and repair them in the index surgery, lest they become a cause of post operative recurrence of hernia. Also, rarity of the entity and hence, lack of standardised repair technique may pose a technical challenge, and may call for ingenuity to complete the repair of such rare paediatric inguinal hernias.

Conflict of Interest

The authors declare no conflict of interest.

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