



Laparoscopic Inguinal Hernia Repair with Intracorporeal Technique In Pediatric Patients: A Case-Series Presentation at HE-1

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Abstract

Background: Inguinal hernia is a frequent surgical pathology in pediatric population, and it is caused by the persistence of the vaginal process. With minimally invasive surgery's era, laparoscopic approach techniques have been developed. The specific benefits for this intervention are focused on adequate visualization of structures of inguinal canal and possibility of diagnosing contralateral defects, as well as their resolution in the same surgical time, reducing costs and anesthesia's risks.

Materials and Methods: Inclusion criteria included patients younger than 15 years old with diagnosis of unilateral and recurrent inguinal hernia over a period between January to September 2018. We evaluated post-surgical period's pain and also followed out these patients to determine recurrences.

Conclusions: Laparoscopic inguinal hernia repair reducing unnecessary hospital stay, as well as decreasing post-surgical pain, also allows an adequate visualization of structures of spermatic cord and exploration of the contralateral side to the hernia's location, allowing diagnosis of new hernias and their repair.

Keywords

Inguinal Hernia; Pediatric; Laparoscopic

Introduction

Inguinal hernia is a common pathology in the pediatric surgery practice, its incidence ranges from 1 to 5% and its immediate surgical repair is indicated [1].

With minimally invasive surgery's era, laparoscopic approach techniques have been developed [2].

This study presents our first experience in laparoscopic inguinal hernia repair with intracorporeal technique, which has allowed us to reduce hospitalization's time and pain of post-surgical period.

Materials and Methods

Inclusion criteria included patients younger than 15 years old with diagnosis of unilateral and recurrent inguinal hernia over a period between January to September 2018.

We evaluated post-surgical period's pain and also followed out these patients to determine recurrences.

Surgical Technique

Surgery was performed through a laparoscopic approach under general anesthesia and local anesthetic infiltration at port level. Patient is placed in a supine position; surgeon is positioned at table's head and assistant on the opposite side of hernia that is going to be repaired.

A 5mm trocar is placed through which abdominal cavity is insufflated and optic is introduced. Two 3mm trocars are placed on abdominal cavity's flanks. Suture is made with 3/0 polyglycolic material, introducing needle through abdominal wall.

Deep groin hole is closed with continuous suture avoiding spermatic vessels and vas deferens. Subsequently, contralateral inguinal ring is explored, and same procedure is carried out if a defect is found [3].

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Results

Twenty-two patients were included, 13 boys and 9 girls (59.09% and 40.9% respectively). They were divided by age group into children under 5 years old representing 35.7% of our studied population, children between 6 and 10 years old representing 50% and children between 11 and 15 years old representing 12.5%.

Pre-surgical diagnosis of unilateral inguinal hernia was made in 71% of patients and recurrent hernia in 29%. Of recurrent cases, 3 patients had history of open surgery and 1 case of extracorporeal laparoscopic technique.

In 31% of the cases, intraoperative diagnosis of bilateral defect was made. The mean surgical time was 55.7 minutes with a range of 20 to 120 minutes. Patients were managed with NSAID analgesia in their post-surgical period and did not require weak opioids, NSAID rescue doses or assessment by the pain.

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Complications or need for conversion were not reported.

In 8 patients no content were found, in 4 patients, content was omentum, in 1 patient small bowel and in 1 patient content was the ovary.

No recurrences have occurred so far in 6-month follow-up.

Discussion

Inguinal hernia is a frequent surgical pathology in pediatric population and it is caused by the persistence of the vaginal process [1]. Its incidence ranges from 1 to 5%, being higher in premature patient (13%); it is more frequent in male sex and can be bilateral up to 15% [2].

In addition to already known advantages of laparoscopy, the specific benefits for this intervention are focused on adequate visualization of structures of inguinal canal and possibility of

diagnosing contralateral defects, as well as their resolution in the same surgical time, reducing costs and anesthesia's risks [4,5].

The management of recurrent hernias and hydroceles with this approach allows us to work on the deep inguinal ring, reducing risk of injuring the spermatic cord due to the presence of scar tissue secondary to previous interventions [6].

Disadvantages include increased surgical time for unilateral defects and learning curves. Complications described include hydrocele, wound infection, edema, testicular ascent and recurrence; studies show that there is no statistically significant difference in recurrence compared to the open technique [4,5].

Conclusions

Laparoscopic inguinal hernia repair is an outpatient procedure, reducing unnecessary hospital stay, as well as decreasing post-surgical pain.

In addition, it allows an adequate visualization of structures of spermatic cord and exploration of the contralateral side to the hernia's location, allowing diagnosis of new hernias and their repair in the same surgical time.

Ethical Approval

The authors declare that we obtained permission from the ethics committee in our institution.

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