

Laparoscopy VS Open Surgery Inguinal Hernia repair in children

Thesis

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قالوا

سببنا انك لا تعلم لنا
إلا ما علمتنا إنك أنت
العليم العظيم

صدق الله العظيم

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List of Abbreviations

Abbrev.	Full term
CPPV	: Contralateral Patent Processus Vaginalis
DH	: Direct Hernia
FH	: Femoral Hernia
HP	: Hernia en Pantalon
IH	: Indirect Hernia
IIR	: Internal Inguinal Ring
LH	: Laparoscopic Inguinal Hernia
MIS	: Minimal invasive Surgery
OH	: Open Surgery Inguinal Hernia
PIRS	: Percutaneous Internal Ring Suturing
PPV	: Patent Processus Vaginalis
SD	: Standard deviation
SPSS	: Statistical package for social science

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Introduction

One of the most frequently performed operative procedures in children is INGUINAL HERNIA REPAIR. The traditional surgical Technique requires an open revision of the inguinal canal and dissection of the hernia sac from the cord. The sac is closed at the level of the internal ring. Progress in pediatric surgery and anesthesia minimized the risk of the procedure so that in most centers it is performed as a day surgery. In recent years laparoscopic hernia repair in children has become more and more popular (*Todd Ponsky et al., 2017*).

As the open technique is very well established, the laparoscopic technique has to offer advantages over the old one.

The advantages cited include minimized invasiveness, no groin incision, diagnosis of contralateral hidden hernia with the possibility to repair it in the same procedure, diagnosis of atypical hernia, minimal risk of spermatic cord structures injury, and better cosmetic outcome (*Kellnar et al., 2016*).

With the increase in laparoscopic inguinal hernia repair, several treatment techniques have developed over the past twenty years, aimed at improving the outcome (*Lukong et al., 2012*).

The various technique differ in their approach to the inguinal internal ring, suturing and knotting techniques, number of ports used in the procedures, laparscopic instruments used, type of dissection of the hernia sac, and type of suturing and knotting techniques (*Kapur et al., 1998*).

Inguinal hernia in children is traditionally repaired through a inguinal incision by dissecting the sac from the cord and suture ligating its base.

Over a period, MIS techniques have evolved to making it more minimally invasive from 3 to 2 and now single port and from intracorporeal knotting to extracorporeal knotting (*Saranga Bharathi et al., 2008*).

Aim of the Work

This thesis aims to evaluate the results of *Ain Shams University on Laparoscopic inguinal hernia repair in comparison with Open surgery in children* as regard operative time, cosmetic appearance, recurrence and other complications.

Review of Literature

With increasing interest, there has been a Development of various techniques in the laparoscopic repair of hernia in children. This proliferation has been orchestrated by refinements in methods of ligation of the patent processus vaginalis at the internal inguinal ring in order to improve results and the outcome of treatment.

The various techniques are: extracorporeal or intracorporeal suturing and knotting, three- or single-port procedure, sac inversion and ligation technique in girls, flip-flap technique, and use of tissue adhesives (*Saranga Bharathi et al., 2008*).

Laparoscopic inguinal hernia repair (LH) in children has been introduced as an alternative method to traditional open hernia repair (herniorrhaphy) (OH), described for the first time by Montupet in 1993 as noted by Schier (*Schier et al, 1998*).

Regarding the technique, there are many techniques now in practice for LH. The different repair options can be described as either intracorporeal or extracorporeal percutaneous. With regard to intracorporeal techniques, in 1993 Montupet, as noted by Schier, first described the technique, consisting in a purse-string suture performed on the peritoneum at the level of the internal ring.

In 1998, Schier introduced his technique, consisting in a “N”-shaped suture on the peri-orificial peritoneum. In 2004, Becmeur and coworkers, as noted by Ostlie and Ponsky, described the laparoscopic technique with division and resection of the hernia sac at the level of the internal ring with subsequent closure of the peritoneal edges (*Ponsky et al., 2014*).

The extracorporeal techniques all involve the placement of a suture around the internal ring and tying the knot using percutaneous techniques. Many variations of this technique have been described (*Ponsky et al, 2014*).

Recently, Ostlie and Ponsky confirmed that there is no sufficient evidence to support one approach over another.

Some studies have been highlighted in order compare the various techniques vis-à-vis the authors and their complication rates.

A-Extracorporeal suturing and knotting technique:

The review shows that extracorporeal technique is currently being used by many pediatric surgeons (*Kellnar et al, 2009*).

The two-port technique using non absorbable suture is employed. The trend now is shifting toward this technique because it is simple, safe, feasible, simple and reproducible.