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Institution Experience with Laparoscopic Hernia Repair in 500 Children

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A Single Institution Experience with Laparoscopic Hernia Repair in 500 Children

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Describe role of Submitting/Presenting Trainee in this project (limit 150 words): Co-author, assisted in drafting and critical review of the abstract.

Background: An inguinal hernia repair is one of the most common operations in pediatric surgery. While laparoscopic repair has been shown to be safe, with similar recovery times as an open operation, there are is still debate over which technique leads to better outcomes. Likewise, there are many different versions of a laparoscopic repair that can be performed. We aim to describe our outcomes in patients who have undergone a laparoscopic hernia repair using a percutaneous internal ring suturing technique.

Objectives/Goal: To describe the outcomes in patients who have undergone a laparoscopic hernia repair using percutaneous internal ring suturing technique.

Methods/Design: A retrospective institutional review of patients under the age of 18 who underwent a laparoscopic inguinal hernia repair between January 2014 and June 2017 was performed. We used a percutaneous internal ring suturing technique that involves hydro-dissection of the peritoneum, percutaneous suture passage, and cauterization of the peritoneum in the sac prior to high ligation in order to improve durability of the repair. Demographics, operative characteristics, outcomes and complications were recorded. Analysis was performed using STATA® (StataCorp, College Station, TX).

Results: Five hundred patients underwent laparoscopic inguinal hernia repair within the study period. Eighty three percent were male, 70% were Caucasian, 15% were African American, 4%

were Hispanic and 4% were Asian. The median gestational age was 39 weeks (IQR 33, 40) and the median age at operation was 1.85 years (IQR 0.40, 5.60).
The median operating time for all patients was 25 minutes (IQR 18, 35). Ninety-two patients had concurrent procedures along with their inguinal hernia repair, with a median operating time of 30 minutes (IQR 27, 54). The median operating time for patients who underwent an inguinal hernia repair alone (n=408) was 23 minutes (IQR 17, 31). Looking at unilateral or bilateral hernia repair alone, the median operative time for a unilateral repair was 20 minutes (IQR 14, 26), while the median time for a bilateral repair was 28.5 minutes (IQR 21, 40).
Only 2 patients required conversion to an open procedure (0.4%), while 4 (1%) experienced post-operative bleeding and 6 (1%) developed a wound infection. There was no injury to the vas deferens or testicular vessels, and iatrogenic ascent of testis occurred in only 4 patients post-operatively at a median time of 214 days (IQR 31, 466) after hernia repair. Fourteen patients (3%) developed a recurrent hernia at a median of 328 days (IQR 149, 526) following initial hernia repair. All were re-repaired laparoscopically with a median operating time of 20.5 minutes (IQR 16, 32).

Conclusions: The use of percutaneous internal ring suturing for laparoscopic repair of inguinal hernias in the pediatric population is safe and effective with a low rate of complications and recurrences**.**