

Percutaneous Internal Ring Suturing (Pirs): A Minimally Invasive Procedure in Pediatric Inguinal Hernia Repair

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Abstract

Objective

Percutaneous internal ring suturing (PIRS) is a single port laparoscopic technique used to repair pediatric indirect inguinal hernia. Unlike the open method, which is the gold standard of the hernia repair, this technique is still new in the fraternity and not many centers practiced it. We applied this technique on our patients and we found that the duration of surgery was shortened, smaller surgical incision, lesser complications and early discharges.

Methods

Patient selection was done based on several criteria, term baby with no anomalies, indirect inguinal hernia, and male baby with a thin abdominal wall. The baby was put under general anesthesia via endotracheal intubation. One-centimeter infraumbilical incision was made and a 3mm 70° scope is inserted after a pneumoperitoneum achieved. With the guidance of the scope, a spinal needle with a Prolene 2-0 was punctured and threaded in on the medial edge of the internal inguinal ring (Figure 1-3). Once the sutures in, the needle is withdrawn. Similarly, another Prolene 2-0 is punctured and threaded in on the lateral edge of the internal inguinal ring (Figure 4). This time, the needle is looped into the first suture (Figure 5). After the withdrawal of the needle, the sutures were tightened and ligated (Figure 6). Laparoscopy is used to inspect that the internal ring is snugly closed without the entrapment of the vas or the cord structures. Once ligated, the scope is removed and the port site is sutured using a purse-string suture. The patient is extubated, observed in the general ward till afternoon and was discharged home after passing flatus, stool, and urine.

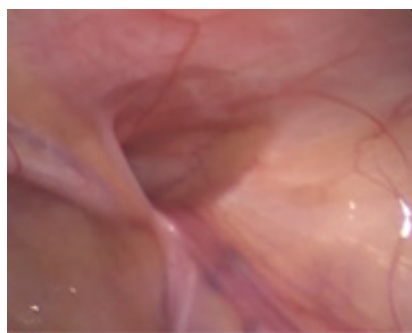


Figure 1

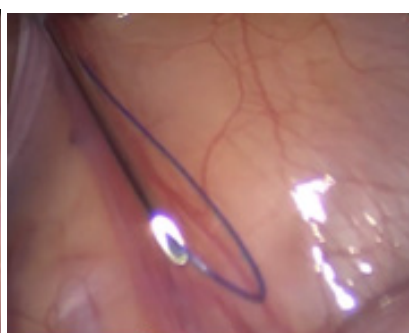


Figure 2

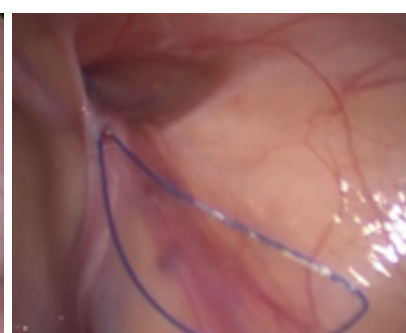


Figure 3



Figure 4



Figure 5

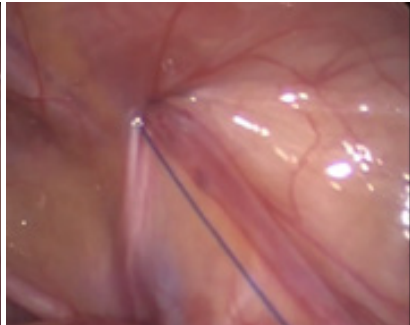


Figure 6

Results

We found that PIRS is a simple and straightforward technique in pediatric inguinal hernia repair with shortened operative time (approximately 60-80mins), lesser scar and post-operative pain along with early recovery and discharge.

Conclusion

The percutaneous internal ring (PIRS) technique is a straightforward and safe technique with lesser complications and satisfactory results.

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