Volume 2, Issue 11, November 2024 ISSN (E): 2938-3765

LAPAROSCOPIC PYELOPLASTY IN YOUNG CHILDREN

Kholmetov Sh. Sh.
Khotamov Kh. H.
Bayakhmedov F. F.
Tashkent Pediatric Medical Institute Tashkent, Uzbekistan

Abstract

This article presents considerations and considerations for laparoscopic pyeloplasty in young children. Laparoscopic pyeloplasty is a low-traumatic surgical operation used to solve problems related to the restoration of the pyelourethral segment. It is an effective and efficient alternative compared to open surgery and endopyelotomy.

Objectives: To improve methods of surgical treatment of congenital hydronephrosis in young children. Research: 2016-2022. 70 children (1-5 years old) with hydronephrosis underwent laparoscopic pyeloplasty. The results were compared with a group of children who underwent open surgery between 2002 and 2016.

Results. Laparoscopic pyeloplasty is a safe operation for sick children with good anatomical features. Advantages of laparoscopic pyeloplasty: minimal trauma: performed with several small incisions. Fast recovery: post-operative pain is minimal and the recovery process is quick. **Aesthetic result:** small incisions leave small scars. It is recommended that the operation be performed by well-trained professionals.

Conclusion: The results of endosurgical interventions confirm the highest efficiency of laparoscopic pyeloplasty in children, as well as its low morbidity when using an antegrade internal drainage stent or pyeloplasty catheter.

Keywords: Haynes-Andersen operation, laparoscopic pyeloplasty, hydronephrosis, endopyelotomy.

Introduction

The most optimal and less traumatic option for solving the problem of patients with obstructive pyelourethral segment is minimally invasive laparoscopic pyeloplasty (LP), the effect and result of which is much higher than open surgery, the length of hospitalization and subsequent rehabilitation the number of patients is very low. Currently, LP is the method of choice in the treatment of primary stenosis of the pyeloureteral segment (PUS) [1-4]. Laparoscopic access is convenient for good visualization of internal anatomical organs, perfect isolation of the pyelourethral segment, free space for manipulation with laparoscopy instruments.

Initially, LP PUS according to Heinz-Andersen was carried out by W. Schuessler and his colleagues. Currently, this surgical method is an alternative to open pyeloplasty and endopyelotomy.

Web of Medicine: Journal of Medicine, Practice and Nursing
webofjournals.com/index.php/5

During LP, several small incisions are made instead of one large incision. Compared to traditional open surgery, laparoscopic surgery causes less tissue damage, significantly reduces postoperative pain, and provides a faster recovery process. Small incisions also provide an aesthetically pleasing result with less scarring.

Objectives

Improving outcomes of surgical treatment of congenital hydronephrosis in young children.

Materials and Methods

During 2016-2022, 70 patients (1-5 years old) underwent laparoscopic pyeloplasty for advanced hydronephrosis in the urology department of ToshPMI clinic.

All patients underwent resection laparoscopic pyeloplasty using the Hines-Andersen technique. During intervention, aberrant vessels in 34 (18.9%) cases, upper ureter in 21 (11.6%), fixed folds in 30 (16.6%), ureteral stenosis in 95 (52.7%) cases and dysplasia was detected circumstances. The operation lasts an average of 3-4 hours and is performed under general anesthesia. During the operation, the doctor makes 3-5 small incisions through which the camera and surgical instruments are inserted. The camera allows the doctor to clearly visualize the anatomical structures and narrowing of the urethra during surgery. During LP, the urethral stricture is relieved by religating the healthy parts of the urethra. 21 patients (L2 group) and 15 patients (L3 group) underwent non-stenting surgery with ureteropyelostomy stent placement (Cook). Stenting was mainly performed in the presence of a large pelvic cavity with thin walls, a thin ureter, malposition of the kidney, and crossed vessels.

At the end of the operation, a stent or small tube is placed in the ureter to restore urine flow and facilitate the healing process. The stent is removed at a doctor's visit on average 6 weeks after surgery.

The results were compared with a group of 52 age-matched children who underwent open surgery between 2006 and 2018 (groups O1, O3).

The operative time was significantly shorter in the L1 and L2 groups compared to the L3 group; The duration of open operations has also decreased. 3 patients with L1 accessory vessels had leakage and 1 had obstruction (11.4%). In the L2 group, 1 had obstruction, 1 had stent malposition, and 1 girl had severe pyelonephritis (14.3%).

Displacement of the ureteropyelostomy in the L3 group occurred in 1 patient (6.7%). We found no statistical difference between the laparoscopic and open surgery groups.

LA without stenting is a safe operation in a certain group of patients with favorable anatomical characteristics, avoiding additional anesthesia and stent-related complications.

Results

The authors concluded that the laparoscopic method is effective and safe in children of the first year, with caution only in qualified specialists.

Intraoperative drainage of CLS, performed using ante- or retrograde internal drainage stents, nephrostomy, and pyeloplasty catheter, remains an urgent issue. In our opinion, retrograde stenting has its own disadvantages: operative time increases, and stenting may not always be successful in

Web of Medicine: Journal of Medicine, Practice and Nursing
webofjournals.com/index.php/5

younger patients. Antegrade stent placement was first proposed in 2002 and is now more commonly used than retrograde stent placement. If antegrade stenting is not possible, pyeloplasty catheters are widely used in our clinic, but in this case the use of a nephrostomy is also allowed. In addition, there are options for pyeloplasty without drainage, the effectiveness of which, in our opinion, has not been reliably proven at the moment, and this drainage method is fraught with the possibility of serious complications in the postoperative period.

The average time of laparoscopic pyeloplasty is close to the average time of open pyeloplasty. According to our research, the efficiency of the operation is 97.7%, which is consistent with the results of recent studies conducted abroad. According to this indicator, laparoscopic surgery is not inferior to open surgery, which indicates that laparoscopic pyeloplasty will soon become the new "gold standard" in the treatment of hydronephrosis. It should be noted that only the careful implementation of all the principles of laparoscopic pyeloplasty, including preoperative preparation, is the key to a successful outcome of the operation and reducing the likelihood of complications.

Conclusion

Our experience and the results of endosurgical interventions confirm the highest efficiency of laparoscopic pyeloplasty in children, as well as its low morbidity when using an antegrade internal drainage stent or pyeloplasty catheter. The child's age is not a deviation for laparoscopic pyeloplasty. Laparoscopic pyeloplasty is effective for repeated surgical interventions in the area of the pyeloureteral segment. As a result of experience, the duration of surgical progress is progressive, and is taken into account in relation to the longevity of open pyeloplasty.

REFERENCES

1. Schuessler W.W., Grune M.T., Tecuanhuey L.V., Preminger G.M. Laparoscopic dismembered pyeloplasty. J Urol, 150: 1795, 1993. DOI: 10.1016/s0022- 5347(17)35898-6.

2. Коварский С.Л., Захаров А.И. Вазопексия при гидронефрозе у детей. Детская хирургия. 2016; (4): 175–7.

3. Kagancov I.M., Minin A.E., Sannikov I.A. Features of drainage of the pelvis after laparoscopic pyeloplasty in children. Urologiya. 2013; (6): 85–9. (in Russian)

4. Philipp S. Laparoscopic Pyeloplasty for Ureteropelvic Junction Obstruction. Journal of Laparoendoscopic & Advanced Surgical Techniques. 2021;31(10):1214- 1218. DOI: 10.1089/LAP.2021.0452.

5. Abraham G.P., Siddaiah A.T., Ramaswami K., George D., Das K. Laparoscopic management of recurrent ureteropelvic junction obstruction following pyeloplasty. Urol Ann. 2015;7(2):183 - 187. DOI: 10.4103%2F0974- 7796.150489.

5. Khotamov, Kh N., et al. "Surgical treatment of traumatic kidney laceration in children." *Urologiia* 2 (2022): 95-98.

Web of Medicine: Journal of Medicine, Practice and Nursing
webofjournals.com/index.php/5