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بسم اللّه الرحمن الرحيم

مركز الشبكات وتكنولوجيا المعلومات

قسم التوثيق الإلكتروني

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم باللّه العظيم أن المادة التي تم توثيقها وتسجيلها

علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

Laparoscopic Pyeloplasty in Children with Pelvi-Ureteric Junction Obstruction in Ain Shams University Hospitals: Early Experience

Thesis

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Hany Emad Mohamed

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List of Abbreviations

Abb.	Full term
ANH	*Antenatal hydronephrosis*
APD	*Anteroposterior diameter*
CAP	*Continuous antibiotic prophylaxis*
DRF	*Differential renal function*
HN	*Hydronephrosis*
HSS	*Hydronephrosis severity score*
LP	*Laparoscopic pyeloplasty*
OP	*Open pyeloplasty*
PPS	*Pyeloplasty prediction score*
PUJ	*Pelviureteric junction*
RP	*Robotic assisted pyeloplasty*
SFU	*Society of feotal urology*
UPJHN	*Uretropelvic junction obstruction hydronephrosis*
UPJO	*Ureteropelvic junction obstruction*
UTD	*Urinary tract dilatation*
UVJ	*Ureterovesical junction*

INTRODUCTION

The Ureteropelvic junction obstruction (UPJO) is one of the most prevalent genitourinary abnormalities in children. It represents a structural and/or functional obstacle to the passage of urine from the renal pelvis to the proximal ureter. UPJO can be further subdivided into congenital or acquired as well as into intrinsic or extrinsic according to the etiology of the obstruction ***(Crigger et al., 2020).***

The main issue with this obstructive disorder is the progressive deterioration in kidney function, which can lead to renal unit loss ***(Neheman et al., 2018).*** There are many techniques for PUJO repair, but the Anderson-Hynes pyeloplasty remains the gold standard for surgical reconstruction ***(Passoni and Peters, 2020).***

Laparoscopic Anderson-Hynes pyeloplasty has become the gold standard in many paediatric centres, it was first reported by Peters and his associates in 1995 ***(Peters et al., 1995),*** but this technique was considered a challenging operation with longer operative time than the open approach, the lengthy learning curve of intracorporeal suturing as well as anastomosis has slowed the widespread acceptance of laparoscopic pyeloplasty (LP). The small incision that it is need to perform an open pyeloplasty and a faster recovery than adults led to a slower adoption of LP in children ***(Garcia-Aparicio et al., 2014).***

There has been increasing evidence that LP's feasibility and outcomes are comparable to standard open procedures. LP is now widely recognized as the minimally invasive alternative for the open surgical treatment of PUJO. Many studies have been done showing that LP has comparable outcome with open pyeloplasty with shorter hospital stay and better cosmetic outcome; however, it has longer operative time ***(Silay et al., 2016; van der Toorn et al., 2013; Iwamura et al., 2013).***

A meta-analysis of laparoscopic versus open pyeloplasty for UPJO in children was done by Yidong Huang and his colleagues in 2015. The findings of this meta-analysis showed that children in LP groups may benefit from shortened length of hospital stay and reduced overall complications, though the LP groups are with prolonged operative time. Besides, the success rate of LP is similar to the open approach. Considering the similar success rate of these two approaches, the laparoscopic pyeloplasty is feasibe and safe in the treatment of UPJO in children, especially in high-volume centers with experienced experts ***(Huang et al., 2015).***

A transperitoneal or retroperitoneal approach to LP can be used. The advantages of transperitoneal methods include larger working space in the intra-abdominal cavity. As a result, it enables safe dissection for crossing vessels as well as simple anastomosis ***(Ciftci et al., 2016).***

The shift from open pyeloplasty to the laparoscopic approach is challenging, but once the surgical team is satisfied with a new modality, the open technique is likely to be abandoned ***(Piaggio et al., 2017).***

AIM OF THE WORK

This study is conducted to assess the feasibility, safety, and short-term outcome of laparoscopic pyeloplasty in children with UPJO.

HISTORY

The first reported pyeloplasty was done in 1886 by trednlenburg through nephrotomy and the patient died from post operative ileus. Küster reported the first successful "dismembered pyeloplasty". He transected the ureter below the stricture and reanastmosed at the lateral wall of the pelvis at the lowest point ***(Poulakis et al., 2004).***

Papin performed renal denervation for hydronephrosis in 1921 assuming the theory that the "sympathetic tone" was the cause of high intrapelvic pressure, increasing pelvic motility and renal pain ***(Poulakis et al., 2004).***

Lubash modified this technique in 1935. He incised the upper ureteral stump like a fish's mouth to create 2 lobes, made 3 incisions at the deepest renal pelvic point and pulled the ureter through the middle incision ***(Lubash, 1935).***

Davis first practiced intubated ureterotomy in 1943. He completely incised the ureter longitudinally over the strictured segment and a stent was left in place until ureter regeneration and formation of a neocircumference ***(Davis, 1943).***

In 1949 Nesbit introduced a modification on the "dismembered pyeloplasty" by Küster. He used an elliptical anastomosis with spatulation of the ureter to decrease the incidence of stricture. He also resected part of the pelvis in the cases of huge pelvis ***(Nesbit, 1949).***