

LETTER TO THE EDITOR

Laparo-Endoscopic Single-Site (LESS) Cutaneous Ureterostomy in a Neonate

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DEAR SIR

Cutaneous ureterostomy is still practiced in children as a temporizing procedure despite a trend towards primary surgical correction for obstructive or refluxive uropathy [1]. It decompresses the system, prevents infections, and protects renal function, with an acceptable complication rate, and obviates the need for tailoring the ureter at the time of the definitive procedure [2]. Indications for ureteral diversion include uncontrolled urinary infection, sepsis, deteriorating renal function and presence of hugely dilated ureter [3]. Cutaneous ureterostomy could be done by minimal invasive technique and placed at the end of the suprapubic crease line (Pfannenstiel incision site) to facilitate future reimplantation [1].

Laparoendoscopic single-site (LESS) surgery is the recent addition in this field. It has gained popularity among pediatric surgeons during the last few years thanks to its advantages including improved cosmesis, reduced surgical trauma, wound complications and post-operative pain [4-8]. We report the first case of LESS cutaneous ureterostomy in a neonate.

A 16-day-old male presented with prenatal findings of marked bilateral hydroureteronephrosis. Mercaptoacetyltriglycine (MAG-3) renal scan revealed an obvious obstructive pattern. Voiding cystourethrography showed no vesico-ureteral reflux. Changes in measured plasma creatinine levels revealed a deteriorating renal function. Indication for ureterostomy was primary obstructive megaureter and deteriorating renal function.

Ureterostomy was done under general anaesthesia. The patient was placed in a supine position with foot end and procedural sides elevated. Urinary bladder was kept catheterised during the procedure. We opted for the single-port laparoscopic surgery using the surgical glove port technique.



Figure 1:- Homemade device used in LESS procedures: The surgical glove port.

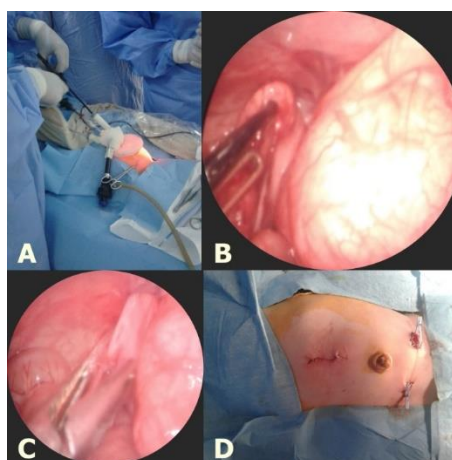


Figure 2:- (A) Standard straight laparoscopic instruments were introduced through the fingers of the glove port. (B) The most distal manoeuvrable part of tortuous ureter was mobilised after making a hole in the overlying parietal peritoneum. (C) The ureter was grasped with a laparoscopic forceps and pulled to the surface. (D) Bilateral stoma at each end of suprapubic creaseline.

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A single glove port was introduced through a 1.5 cm supra umbilical incision into the abdominal cavity. This glove port is composed of a flexible ring, a rigid larger ring and one powder free surgical glove (Figure 1). The flexible ring covered by the glove was placed through a middle supra umbilical incision. Then the open end of the glove surrounded closely the rigid ring. Standard straight laparoscopic instruments were introduced through the fingers of the glove port for the dissection and the mobilisation of the ureters (Figure 2A). The most distal maneuverable part of tortuous ureter was mobilized after making a hole in the overlying parietal peritoneum (Figure 2B). Then the ureter was grasped with laparoscopic forceps and pulled to the surface at each end of suprapubic crease line for creation of stoma (Figure 2C, Figure 2D). The operative time was 82 minutes. Blood loss was minimal. The postoperative period course was without complications. Follow-up studies after surgery revealed improved renal function with a significantly decreased ureteral diameter. The baby is now a 6-month-old healthy child. He awaits future second stage repair in the form of a bilateral megaureter reimplantation with or without ureteral tapering, at age 18 to 24 months.

The glove-port is a feasible and esthetic technique to perform laparoscopic ureteral diversion in neonates. Prospective randomized trials could demonstrate advantages of this minimally invasive surgical technique compared to open surgery and to conventional laparoscopy.

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