Laparoendoscopic Single-Site (LESS) Ureterolithotomy and Pyeloplasty: Preliminary Experience in a Single Institution

Introduction and Objective: Report and assess the feasibility and safety of LaparoEndoscopic Single-Site (LESS) utereolithotomy and pyeloplasty initially performed at the Department of Urology C, Binh Dan hospital.
Materials and Method: From January to April 2010, 13 patients underwent LESS ureterolithotomy or pyeloplasty. Patients were placed in the modified nephrolithotomy or supine position. A transumbilical or periumbilical skin incision of 2 cm was made for insertion of 3 standard trocars (2 trocars Storz® 10mm and one trocar Storz® 5mm) or a SILS Port™ of Covidien. Standard and roticular laparoscopic instruments (roticular EndoDissect 5mm, EndoGrasp 5 mm, EndoShears 5mm) were used for dissection-section during the procedures. Colon reflection for accessing the retroperitoneum. Dissection of the proximal or distal ureter, ureterolithotomy, placement of a ureteral stent, and ureteral suturing. In case of pyeloplasty, an intraoperative cystocopy and placement of a DJ stent were done after general anesthesia and pyeloplasty performed over the in-site DJ stent. At the end of the procedure, the trocars were removed, the stone retrieved through the umbilicus and a drain placed the umbilicus. Patients were assessed and data recorded.
Results: There were 10 male and 3 female patients. Mean patient age: 38 (range 26 to 48). ASA score: I: 8/12, II: 4/12, III: 1/12. LESS pyeloplasty: 6 (Left: 3, Right: 3), LESS ureterolithotomy: 6 (Left: 2, Right:4), LESS pyelolithotomy: 1. Mean operating time: 116.6 mins (80-160). Mean estimated blood loss: 33.3 mL (range 10 to 50). There were no conversions to standard laparoscopy or open surgery. One additional port of 5 mm was required in 1 dismembered pyeloplasty for suturing. Drain removal in 3.15 days (range 2 to 4). Postoperative hospital stay: 3.25 days (range 2 to 4). Postoperative complications: 1 bleeding at umbilical site requiring hemostatic suturing.
Conclusions: Although LESS surgery is recently applied in urology, our outcomes in LESS ureterolithotomy and pyeloplasty is encouraging with low rate of complications. Further studies are needed to better define the appropriate role of LESS surgery.