Pure Transvaginal Natural Orifice Transluminal Endoscopic Surgery (NOTES) for Nephrectomy: Report of 10 Cases

Introduction and Objective: To describe the initial clinical experience of pure transvaginal NOTES for nephrectomy, and evaluate its feasibility.
Materials and Methods: Between January and December 2011, nine female patients with non-function kidney (right 7, left 2), with a median age of 40.5 yeas (range 32 to 68), underwent pure transvaginal NOTES nephrectomy, and one female patient with right renal carcinoma underwent pure transvaginal NOTES radical nephrectomy. After induction of general anesthesia, the patients were positioned in lithotomy with ipsilateral lumbar at 30° angle to the operating table. The patient's head end was lowered by 25° in order to keep the intestinal canal out of the pelvic cavity as possible. A 5-mm incision was made at the posterior vaginal fornix, and a 5mm Trocar was introduced into the pelvic cavity guided by a 5-mm forceps. A 5-mm flexible-tip 0° laparoscope was inserted into the pelvic cavity confirming no rectum injury. Then a Triport was introduced at the posterior vaginal fornix. The patients head end was raised by 25° with right lumbar at 60° angle to the floor. Dissection was performed according to the method of the standard laparoscopic simple and radical nephrectomy. The intact specimen was extracted transvaginally. The pelvic cavity was drained by one tube brought out through vagina. The vaginal wound was closed under direct vision using a 2/0 absorbable suture.
Results All the procedures were successfully completed. The median operative time was 200mins (range 170 to 330). The median estimated blood loss was 160 ml (range 100 to 250). There were no intraoperative or postoperative complications. The patients resumed ambulation on postoperative day 1. The patients resumed nutrition and the pelvic drainage was removed on postoperative day 2 to 3. The patients were discharged on postoperative day 6.
Conclusions: Pure transvaginal NOTES for nephrectomy is feasible. This novel technique seeks to provide cosmetic result even when compared to today's minimally invasive procedures.