Transurethral Closed-System Pluck Versus Open Cystostomy Laparoscopic Nephroureterectomy for Upper Urinary Tract Urothelial Cancer: 5-Year Follow-up

Introduction and Objective: Upper urinary tract urothelial carcinoma (UUT-UC) is a relatively rare malignancy, accounting for 5% of urothelial cancers. Traditionally, an open cystostomy with en bloc excision of bladder cuff and nephroureterectomy has been the gold standard. Increasingly, laparoscopic nephroureterectomy (LNU) is emerging as an alternative, however, the dilemma during this procedure is the management of the distal ureter. With no consensus on standard treatment, approaches include a combination of laparoscopic, endoscopic and open procedures. We compare our previously described transurethral closed-system pluck LNU using a Hem-o-lok® clip with open cystostomy: 5-year follow-up.
Materials and Methods: We retrospectively reviewed the case notes of 25 patients who undewent a transurethral closed-system pluck LNU for UUT-UC between 2000 and 2006. Patients with a previous history or concomitant bladder cancer, carcinoma-in-situ, mid and distal ureteric tumours were excluded. A cohort of 25 patients matched by age, tumour location and pathology who underwent a LNU with an open cystostomy were selected as the control group. Patient demographics, operative results and oncological outcomes in the two groups were compared. Statistical analyses were performed with chi-square test, *t*-test and Kaplan-Meier method using Minitab version 16. Statistically differences were considered to be present at $P < 0.05$.
Results: Patient demographics were similar in the transurethral closed-system pluck and open cystostomy LNU groups, with a mean age of 65 years and 67 years, respectively. The operative time, estimated blood loss and peri-operative complications were not statistically different in the two groups. The mean hospital stay in the transurethral closed-system pluck and open cystostomy LNU groups were 5.4 days and 8.9 days, respectively, and was statistically significant. Overall rates of recurrence, recurrence-free survival and metastases were similar.
Conclusions: Transurethral closed-system LNU using a Hem-o-lok® clip is an entirely minimally-invasive procedure. Theoretically, this allows manipulation of the kidney and ureter during surgery with minimal risks of tumour spillage and seeding, thus, adhering to the oncological priniciples. Furthermore, the results show that at 5-year follow-up, the oncological outcomes are similar to the gold standard open cystostomy LNU.

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