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Introduction & Objectives: The leading treatment option for nonmetastatic upper tract urothelial carcinoma in current era is robot-assisted radical nephroureterectomy (RANU) with extended template lymphadenectomy (E-LND). Due to the rarity of this disease, there is a lack of consensus regarding the best approach and the extent of lymphadenectomy. We report our technique and its initial outcomes from the retrospective evaluation of a prospectively maintained database of 22 consecutive cases of RANU + E-LND.

Materials & Methods: RANU was performed in 22 patients (including two patients with simultaneous radical cystectomy) with the da Vinci Xi system. Pelvic and upper ureteric tumors were operated without re-docking or repositioning, using the port hopping feature. For the lower ureteric tumors, the patient was repositioned and the robot was re-docked to ensure completeness of pelvic lymphadenectomy. E-LND was performed in all the patients as per the templates described in previous studies.

Results: Median age was 61.72 years (range 46–76). Median console time and blood loss were 170 min (range 156–270) and 150 cc (range 25–500), respectively. Median hospital stay was 3 days (range 2–8). One patient developed paralytic ileus in the postoperative period (Clavien Dindo Grade 1). None had a positive surgical margin and the median lymph node yield was 22.5 (range 7–47). One patient had a papillary renal cell carcinoma and one patient had no evidence of malignancy in final histopathology report. Median follow-up was 10.5 months during which one patient developed metastatic systemic recurrence. All other patients were disease free at the last follow-up.

Number of RANU cases,(n)	22
Side - right:left	11:11
Location	
Renal pelvic and upper ureteric	12
Mid ureteric	4
Lower ureteric	6
Open conversion	1 (only for pelvic part of surgery)
Median length of stay (range), days	3 (2-8)
Template-based lymphadenectomy	22 (100%)
Median lymph node yield (range)	22.5 (range 7–47)
Margin positivity	0%
Pathological grade*	
High grade	12
Low grade	8
Pathological T stage*	
pTa	1
pT1	9
pT2	2
pT3	8
Pathological Lymph node status	
N0	
N1	17
	5
Adjuvant chemotherapy	6
Recurrence	1

*One patient had a renal cell carcinoma and one patient had no evidence of malignancy in final histopathology report.

Conclusions: A robotic approach to radical nephroureterectomy with E-LND is feasible and safe and does not appear to compromise the short-term oncological outcomes as defined by lymph node yields and margin positivity. At the same time, it offers the benefits of minimal invasion and results in swifter patient recovery from this extensive surgery.