VE11

Robotic partial nephrectomy with intracorporeal ice cooling

EUR Urol Suppl 2019;18(6):e2685

Yuminaga Y.[1], Barod R.[2]

[1]Nepean Hospital, Dept. of Urology, Penrith, Australia, [2]Royal Free Hospital, Specialist Centre for Kidney Cancer, London, United Kingdom

Introduction & Objectives: Robotic partial nephrectomy (RPN) is a standard of care for renal mass. Traditionally, robotic partial nephrectomy is limited by lack of cold ischaemia as an option. We present a case series of patients with robotic partial nephrectomy with intracorporeal ice cooling to reproduce cold ischaemia similar to open partial nephrectomy.

Materials & Methods: A total of 5 cases were performed with intracorporeal cooling with ice by a single surgeon, 3 cases for bilateral/large tumours, 1 case for single functioning kidney and 1 case for solitary kidney. Ice slush was introduced through an extra 15 mm valved port after both arterial and venous clamps were applied. Median RENAL nephrometry score was 8 (range:7-10).

Results: All underwent successful RPN. Mean cold ischaemia time was 33 minutes (range: 22-48), and estimated mean blood volume was 670 ml (range: 250 ml-1500 ml). Final pathology showed negative marings on all tumours. No patient required blood transfusion and only one grade 2 clavien-dindo complication was recorded for starting an oral antibiotics for suspected pneumonia. A mean decline of eGFR was 4 at 3 months follow up.

Conclusions: Our technique RPN with intracorporeal cooling with ice is a reproducible way of performing partial nephrectomy achieving cold ischaemia mimicking open partial nephrectomy.