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Abstract no.: PR. 6

Pure retroperitoneoscopic right living donor nephrectomy: a single centre experience AHK Poon, WPL Hung, TF Wong, HL Wong, TCT Lai, CF Tsang, BSH Ho, ATL Ng

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- Most donor nephrectomies are limited to the left due to technical and anatomical concerns in harvesting the right kidney. Right donor nephrectomies are usually open, laparoscopic or retroperitoneoscopic with hand-assisted techniques.
- We review our experience with pure retroperitoneoscopic right donor nephrectomies without hand assistance and describe a novel technique to maintain pneumo-retroperitoneum while allowing quick graft access.

Patients & Methods

- 2 living donors underwent pure retroperitoneoscopic right donor nephrectomies from April 2023 to August 2024.
- The donor was placed in left lateral position. Incision was made below 12th rib tip for camera port insertion. Retroperitoneal space was developed with Gaur's balloon and two working ports were inserted. The renal artery and vein were dissected. The whole kidney was mobilised and ureter divided.
- Just before division of renal hilum, an incision was made joining all three port sites and covered with two 3MTM surgical drapes. The ports were reinserted through the drapes. Pneumo-retroperitoneum was re-established. The renal artery and vein were divided by vascular staplers. The drapes were removed and the kidney was retrieved immediately.





3MTM surgical drapes are used to maintain pneumo-retroperitoneum after extension of laparoscopic wounds



Donor positioning



Retroperitoneal space developed



Initial port placement







Quick graft procurement immediately after removal of surgical drapes minimises warm ischaemic time

Application of two surgical drapes to cover extended incision Ports reinsertion through the drapes for hilar division

Results



- Both operations were successful with no open conversion and minimal blood loss. Operative time were 165 and 185 minutes. Warm ischaemic time were 1 and 2 minutes. There were no complications in both cases.
- Both recipients had uneventful recovery with immediate graft function.
- Pure retroperitoneoscopic right donor nephrectomy is safe with short operative time and warm ischaemic time.
- The use of 3MTM surgical drapes to re-establish pneumoretroperitoneum allows quick access for graft retrieval and obviates the need for hand-assisted procurement.

