

Laparoscopic Donor Nephrectomy of Dual Renal Artery Kidneys: Single Center Experience

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Abstract

Background: Multiple renal artery (MRA) kidneys represent a special challenge for surgeons, during both donor nephrectomy and renal transplantation.

Aims: This study aims to evaluate both donors' and recipients' outcomes of laparoscopically procured dual renal artery (DRA) kidneys.

Patients and Methods: We reviewed the medical records of all living kidney donors who underwent laparoscopic donor nephrectomy between April 2009 and December 2014, and their recipients. Operative details and immediate outcomes of both donors and recipients of DRA kidneys were compared to those of donors and recipients of single renal artery (SRA) kidneys.

Results: From a total of 250 laparoscopic donor nephrectomies, 43 (17.2%) were on kidneys having DRAs. The mean operative time was statistically higher in the group with DRA (168.1 mins vs 135.3 mins, $p=0.001$), however, mean warm and cold ischemia times were the same. There were no complications reported among donors in neither groups, nor conversion to open nephrectomy. Lengths of hospital stay of the donors were similar in both groups. There was no statistically significant difference in immediate allograft function among the two groups.

Conclusions: Laparoscopic procurement of kidneys with dual renal arteries is safe, reliable, and has no significant impact on the neither donor's outcome, nor allograft function.

Key words: kidney transplant, laparoscopic donor nephrectomy, multiple renal arteries, allograft function