particularly with the advent of robotic techniques. We assessed the initial experience at our institution with robotic donor nephrectomies regarding operative factors and patient outcomes.

Methods: From February 2020 to May 2021, we completed the first fifty robotic donor nephrectomies at our institution. A retrospective review was conducted in comparison to fifty laparoscopic donor nephrectomies performed by the same surgeons just prior to introduction of the robotic approach. Patient characteristics and operative variables were extracted from the medical record. Descriptive statistics were used in data analysis.

Results: No significant differences were noted in donor patient demographics or kidney anatomic characteristics between the robotic and laparoscopic groups. Mean operative time (187 vs. 139 min, $p<0.01$) and cross-clamp to on-ice time (4.3 vs. 2.0 min, $p<0.01$) were significantly longer in the robotic group. Length of stay was comparable (1.7 vs. 1.8 days), and postoperative complications were rare in both groups. Kidney recipients of robotic vs. laparoscopic donors also demonstrated no significant differences in length of stay (3.3 vs. 3.7 days) or rates of delayed graft function (4% vs 2%).

Conclusions: Robotic living donor nephrectomy offers a promising alternative minimally invasive approach with excellent patient outcomes. Additional assessment regarding surgeon ergonomics, perceptions of operative efficiency, and trainee education is ongoing as our institutional knowledge continues to expand.

CITATION INFORMATION: Yu J., Vaccharajani N., Matson S., Scherer M., Wellen J., Shenoy S., Chapman W., Doyle M., Khan A. Robotic Living Donor Nephrectomy: The Future is Now AJT, Volume 22, Supplement 3

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Abstract# B148

Domino Living Donor Kidney Transplant Following Therapeutic Nephrectomy for Renal Artery Stenosis with Arterial Reconstruction and Viability Assessment Using Ex Vivo Normothermic Perfusion: A Case Series.

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Purpose: Ex vivo normothermic perfusion (EVNP) is increasingly recognized as a viability tool to increase organ utilization. We report use of EVNP to assess graft perfusion of potential domino transplants following therapeutic nephrectomy and backbench arterial reconstruction in four cases of refractory hypertension secondary to renal artery stenosis (RAS) unsuitable for endovascular treatment.

Methods: Retrospective review of prospectively maintained data. Ex vivo normothermic perfusion utilizing red cell-based perfusate at 37 degrees Celsius. Autotransplantation was discussed and declined by patients A and B, both grafts, therefore, were offered for domino transplantation.

Results: Patient A and Patient B had isolated unilateral RAS presumed secondary to fibromuscular dysplasia. Pre-operative imaging and functional assessment revealed a split function of the affected kidneys to be 38% and 43%, for Patient A and Patient B, respectively. Patient C and Patient D had a wider distribution of vascular occlusive disease. Patient C had an occluded left renal artery with an atrophic left kidney and no evidence of function on isotope imaging. Following unsuccessful angioplasty and stenting, Patient D had developed in stent occlusion; subsequent imaging demonstrated hypo-perfused right kidney with 6% estimated split function. Following nephrectomy, all kidneys were prepared on the backbench for EVNP. For Patient A and Patient B, a common stem was created using spatulation of the renal artery and reconstruction with collateral vessels (plus saphenous vein patch in Patient B). Both grafts perfused well with excellent global perfusion and urine output (EVNP assessment score=1). Beyond the stent stenosis, the renal artery from Patient C was short but allowed cannulation following dilatation. Patient D required separate cannulation (to renal artery and main collateral) with 14G cannula. Patient C and Patient D demonstrated high resistance and poorer perfusion (EVNP assessment score=4). The kidneys from Patient A and Patient B were successfully transplanted into two dialysis-dependent patients who achieved primary function and eGFR of 58 and 62ml/min/1.73m^2, respectively.

Conclusions: The demonstration of adequate arterial reconstruction plus excellent graft perfusion whilst on EVNP, alongside favourable pre-operative functional imaging, provided confidence to transplant two marginal domino grafts.

CITATION INFORMATION: Pearson R., Wubetu J., Stevenson K., Aitken E., Jackson A., Clancy M., Kingsmore D. Domino Living Donor Kidney Transplant Following Therapeutic Nephrectomy for Renal Artery Stenosis with Arterial Reconstruction and Viability Assessment Using Ex Vivo Normothermic Perfusion: A Case Series AJT, Volume 22, Supplement 3

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Abstract# B149

Clinical Significance of the Living Kidney Donor Profile Index in Living Kidney Donors for Predicting of Post-Transplant Outcome: Korean Organ Transplantation Registry.

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Purpose: According to recent reports, a risk index for living donor kidney transplantation (LDKT) such as the Kidney donor profile index (KDPI), a non-invasive method for assessing the kidneys of deceased donors prior to transplantation, has been studied. In this study, data were collected from donors and recipients registered in the Korean Organ Transplantation Registry (KOTRY) with retrospective medical records and prospective follow-up cohorts of patients undergoing renal transplantation. We analyze the living kidney donor profile index (LKDPI) with data from KOTRY, and confirm if LKDPI could be a tool to predict the survival of allograft in LDKT.

Methods: The study population was derived from the KOTRY database. From April 2014 to December 2020, 5403 kidney recipients registered in the KOTRY database were enrolled. Donor information (donation date, age, sex, race, blood type, BMI, History, HLA typing, previous hemodialysis and kidney transplantation, lab finding, etc.), and recipients information (kidney transplant date, age, sex, race, BMI, blood type, HLA typing, the result of survival, renal funtion, lab finding, etc.) were observed. LKDPI was measured with these factors and analyzed whether the LKDPI score could predict the graft loss.

Results: Of the 5403 kidney recipients, 2598 (Men: 1112, Women: 1486, median age: 47.7) who received LDKT were evaluated with LKDPI. Median LKDPI was 15.5. Patients were divided into three groups based on LKDPI score. Then, two groups with low LKDPI were grouped together and compared with the group with the highest LKDPI. We validated that the higher LKDPI score was the higher death-censored graft loss risk (HR = 1.178; 95% CI 1.112-2.655; $P = 0.015$). In multivariate analysis which corrected recipient factors affecting graft loss risk, the same results were founded. Higher LKDPI score group showed higher risk of death-censored graft loss (HR = 1.721; 95% CI 1.109-2.671; $P = 0.015$).

Conclusions: In this study, we confirmed that LKDPI could be an independent predictor for assessing the risk of allograft failure and outcome in a Korea LDKT. It may be useful and helpful for patients who are struggling between wating DDKT and going LDKT.

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Abstract# B150

Clinical Implications of Robotically Assisted Laparoscopic Donor Nephrectomy: A Single Center Experience.

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Purpose: Robotic assisted live donor nephrectomies (RDN) continue to increase in prevalence over the last years. Prior studies demonstrated outcomes of robotic procedures are no worse than laparoscopic donor nephrectomies (LDN). Our aims were to further explore the differences in outcomes between these techniques of living donor kidney transplantation as more centers shift towards the robotic approach

Methods: This is a retrospective study comparing surgical techniques for living donor nephrectomies at a single institution. The results of 90 consecutive live donor nephrectomies performed from May 2016 to October 2021, consisting of 33 laparoscopic and 57 robotic, were reviewed. The two surgical approaches were compared by collecting information on operative time, intraoperative blood loss, intraoperative fluids administered, PRN opioids administered in hospital, length of stay, GFR and creatinine at discharge, and creatinine at 3, 6, and 12-month intervals