

Laparoscopic Nephrectomy for Kidney Donors with Multiple Arteries: Short Term Results

Gurluler E.¹, Berber I.¹, Gures N.¹, Yakupoglu U.¹, Gurkan A.¹

¹Acibadem University, International Hospital, Transplantation Center, Istanbul, Turkey

Objective: Due to difficulties in not only dissection and isolation of the small arteries, but also getting suitable length of these vessels, laparoscopic nephrectomy (LN) for kidney donors with multiple arteries requires an increased attention. In our study we aimed to compare the follow-up of LN of kidney donors who have multiple renal arteries with the ones who has a single renal artery.

Methods: This retrospective study included 178 donors operated between November 2010 and December 2011. Among these donors 27 of them had dual renal arteries (Group I) while 151 had a single artery (Group II). We compared the demographic features, operation duration and clinical follow-up these two groups. As expected cold ischemia time was significantly longer in Group I (54.5±35 vs 42.2±16.4 min, in groups I and II respectively, p=0.004). However no statistical significance was observed in terms of demographic features, operation duration, hot ischemia time, discharge time and post-operative complications between the two groups. The clinical follow-up of the recipients regarding hospitalization duration (7.7±4.8 vs 7.6±5.5 days, in groups I and II respectively) and graft function (mean serum creatinine levels of 1.48±0.96 vs 1.33±0.64 mg/dl, in groups I and II respectively) showed no statistical difference between the two groups, either.

Results: LN for kidneys with dual renal arteries is as a safe procedure and longer cold ischemia time does not seem to diminish the graft function.

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ABO-Incompatible Kidney Transplants- A single centre experience

Diekmann F.¹, Sánchez-Escuredo A.¹, Revuelta I.¹, Cid J.², Lozano M.², Blasco M.¹, Musquera M.³, Peri L.³, Paredes D.⁴, Monsalve C.⁵, Alcaraz A.³, Campistol J.M.¹, Oppenheimer F.¹

¹H. Clínic Barcelona, Renal Transplant Department, Barcelona, Spain, ²H. Clínic Barcelona, Haematology Department, Barcelona, Spain, ³H. Clínic Barcelona, Urology Department, Barcelona, Spain, ⁴H. Clínic Barcelona, Transplant Service Foundation, Barcelona, Spain, ⁵H. Clínic Barcelona, Anesthesiology Department, Barcelona, Spain

Background: Use of ABO-incompatible (ABOi) living donor kidney transplants is growing as a response to the organ shortage and the increase in sensitization among candidates. ABOi transplantation is an accepted method of expanding the kidney donor pool but there is little analysis of the protocols used.

Methods: Single centre retrospective observational study. 33 consecutive ABOi kidney transplants were performed from October 2006 to May 2011. According to the original centre protocol, patients were treated with either immunoabsorption (ABO antibodies titer > 32) (n=11; 33,3%) (IA) or plasma exchange (titer ≤32) (n=22; 66,6%) (PE). Patients with titer > 256 were not included in the program. They all received additional rituximab and IVIg, and received induction with thymoglobulin (34.5%) or basiliximab (65.5%). The maintenance immunosuppression was prednisone, mycophenolic acid and tacrolimus.

Results: Median age: 46 ± 13 years. 20 male patients, 23 pre-emptive transplants. 10 second or third transplants, mean PRA 8% (range: 0-90). Median donor age: 48±11 years; 86, 2% female. The median first ABO antibody titer was 32 (range: 1-256), at day of transplant 2 (1-8), first day posttransplant 4 (1-16) and at 1 month follow up 4 (2-32).

After one year the median creatinine was 1.33±0.29 mg/dl and proteinuria 204 (139-582) mg/24h. Patient and graft survival at first year were 97% and 91% respectively. The 15% presented acute rejection episode (humoral 6%; cellular ≥ Banff IA: 9%).

Conclusions: ABOi living donor kidney transplantation can be performed safely and effectively with IA or plasma exchange in immunological low and high-risk patients. Short and mid-term graft survival and function are comparable with ABO compatible living donor kidney.

Retroperitoneoscopic Hand-Assisted (HARP) Donor Nephrectomy as the Standard Procedure - Experience with the Transition from Anterior Approach Open Retroperitoneal Donor Nephrectomy

Stippel D.L.¹, Wahba R.¹, Özcan H.¹, Teschner S.², Kisner T.²

¹University of Cologne, Department of General, Visceral and Cancer Surgery, Division of Transplantation Surgery, Cologne, Germany,

²University of Cologne, Department of Internal Medicine and Nephrology, Cologne, Germany

Introduction: Donor safety and comfort as well as graft function are the main criteria to choose of a live donor procedure. Minimal-invasive procedures have become increasingly popular due to advantages concerning donor comfort. However, a learning curve may occur when a new procedure is introduced at a center.

Patients and methods: The analysis includes the first 50 consecutive hand- assisted retroperitoneoscopic donor nephrectomies (HARP) and a comparison with the last 30 anterior approach open donor nephrectomies. To evaluate a learning curve operation time, blood loss and warm ischemia was compared for groups of ten consecutive patients each. For a comparison of the two approaches the 30 donors with the open approach (O) were compared to patients 21 - 50 with HARP (H) procedure.

The donor characteristics' were not different in both groups: female/male O 19/11 versus H 33/17, side of donation right/left kidney O 6/24 versus H 13/37, donor age(years) O 52,5±9 versus H 50,2±11, BMI O 28±5 versus H 27±5, 2 arteries in O 2 versus H 4 cases.

Results: There was no mortality and no major morbidity in all 80 donors. There were two cases of superficial wound healing disturbance in the HARP group. Within the HARP group the mean operative time in minutes were group A(patients 1-10) 172±37, B(11-20) 143±31, C(21-30) 137±35, D(31-40) 159±19, E(41-50) 137±17 (p< 0,037); the warm ischemia in seconds group A 160±45, B 168±67, C 141±52, D 135±36, E 106±21 (p < 0,043); the blood loss in ml group A 94±70, B 59±24, C 75±70, D 72±44, E 40±21 (ns), recipient creatinine on day 7(mg/dl) A 1,8±0,9, B 2,9±2,9, C 1,1±1,0, D 1,4±0,4, E 1,5±0,6 (ns). Comparing the open approach(O) and HARP(H), the operation time was not different O 136±29 versus H 145±26 (ns); the blood loss was smaller in the HARP group O 328±207 versus H 62±50(p< 0,001); the warm ischemia time was longer in the HARP group O 23±29 versus H 127±40 (p< 0,001). All eighty kidneys showed primary graft function, the drop in recipient serum creatinine (mg/dl) was not different between the open and the HARP group, day 3 O 1,6±0,9 versus H 1,7±0,9; day 5 O 1,4±0,7 versus H 1,5±0,9, day 7 O 1,3±0,6 versus H 1,3±0,7. There was a significant reduction in the need of pain medication in the HARP group compared to the open approach group.

Conclusions: The learning curve for hand-assisted retroperitoneoscopic donor nephrectomy is short under the condition of sufficient previous experience in donor nephrectomy and laparoscopic surgery. Warm ischemia and blood loss reach a minimum after only 10 cases. Overall operative time improves over a longer period of time. There was no learning curve visible in the recipient renal function.