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市立札幌病院における腎移植手術手技

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われわれが行っている (1) 生体ドナー腎摘出法、(2) 血管吻合法、(3) 尿管膀胱吻合法につき概説する。

(1) 生体ドナー腎摘出法

2001年9月より、腹腔鏡用手補助下ドナー腎摘出術を行っている。体位は完全側臥位とする。まず、胸骨剣状突起から2, 3横指下方から正中に65~75mmの皮膚切開を置く。切開創からLAP DISCTMを装着しハンドアシスト用のポートとする。ハンドポートから12mmのトラッカーを挿入し内視鏡下に臍下(臍横)、鎖骨中線上にポートをおき経腹膜的行う。最初はpure laparoscopicに行い、下行結腸外側を切開し腎前面を剥離し、腎静脈、精線静脈、副腎静脈を同定しておく。ついでLAP DISCから術者の手を挿入し、腎動脈はヘモロッククリップのdouble clip、腎静脈はエンドGIAで処理し摘出している。腎摘出の際には滅菌したビニール袋を使用している。

(2) 血管吻合法

まず腎静脈から吻合する。腎静脈は外腸骨静脈と端側吻合を行う。腎静脈が短い場合は、内腸骨静脈を結紮切断しておく。外腸骨静脈に血管遮断鉗子をかけ、移植腎静脈の口径を確認しこれに見合ったvenotomyをおく。5-0プロリンの3点支持にて連続縫合で行っている。終了したらブルドッグ鉗子を腎静脈にかけ、血管遮断鉗子をはずし下枝からの静脈血を開放する。ついで腎動脈の吻合に移る。腎動脈は内腸骨動脈と端端吻合する。片側を6-0プロリンの結節縫合、片側は連続縫合で行っている。内腸骨動脈の動脈硬化が強い場合は、外腸骨動脈との端側吻合を考慮する。

(3) 尿管膀胱吻合法

膀胱外操作により行っている。移植尿管を約10mm程度spatulateし膀胱粘膜と吻合する。Anchorは4-0吸収糸で2~3針おく。その後5-0吸収糸にて粘膜を連続縫合する。尿の漏れがないことを確認したら筋層、漿膜を5-0吸収糸で結節縫合し、粘膜下トンネルの長さが30mm以上になるようにする。ただし、尿の流出に充分注意し閉めすぎないように注意を払う。長期にわたる無尿で、萎縮膀胱が顕著の際には自己尿管との吻合を考慮する場合がある。

以上の項目につき、市立札幌病院で行った成績を報告する。

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Challenges in Renal Transplantation— a Single Center Experience

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Introduction : The first renal transplant was performed in our department and in Romania in 1980 representing a top medical activity in eastern European countries. This study was done to assess our department performance in renal transplantation, both in normal or abnormal renal vascular anatomy. The aim of our study is to evaluate the living donor nephrectomy, complications, evolution and long-term results after surgery and to assess if abnormal renal vascular anatomy represented a problem in performing transplantation. **Material and Methods :** From June 1997 to December 2004, 522 renal transplantations (446—living donor and 76 cadaver donor) have been performed in our center, with an average of 70 per year, rising to 107 in 2004. From 466 living donors, we performed 216 left nephrectomies and 250 right nephrectomies. In all cases we assess the general preoperative evaluation for living donor, the immunological status, and vascular anatomy evaluation for renal pedicle (Echo-Doppler, angio-MRI, helical-CT scan, arteriography, IVP). The standard minimal lombotomy nephrectomy technique was preferred, according to every case. 174 cases (33%) presented vascular abnormal anatomy, 115 cases abnormal arteries and 59 cases abnormal veins. **Results :** In 446 nephrectomies, no major complications appeared. Minor complications were: minor bleeding—22 cases (4.7%), renal arterial spasm—35 cases (7.8%), only one case needed blood transfusion and average blood loss was 165 ml. Other complications were as followed: minor respiratory complications—10 cases (2.2%), pneumothorax—8 cases (1.7%), postoperative ileus—6 cases (1.3%), bladder voiding problems—12 cases (2.6%), UTI—7 cases (1.5%). All complications were solved before discharging. Long-term complications were: persistent wound pain—6 cases (1.3%), paresthesia—5 cases (1.1%), wound hernia—3 cases (0.6%). Quality of life was assessed in a study on 92 cases using the SF 36 Health Survey Test and it was normal. For arterial anastomosis special techniques were used as followed: double T-T anastomosis was performed in 73 cases, T-L anastomosis including an aorta patch were performed in 7 cases from cadaver donors, combined anastomosis T-T in 3 cases; in 19 cases we made a single trunk and in 3 cases we performed T-T anastomosis of aberrant arteries to the inferior epigastric artery. Cava patch for multiple veins was sutured T-L to the external iliac vein in 13 cases (5 from cadaver donors). In cases with abnormal venous systems (transposition of the great vessels, retro aortic vein, when the venous blood was conducted to the hemiazygos system or spermatic/ovarian system) we performed T-L anastomosis to the external iliac vein. **Conclusions** Living donor nephrectomy was performed in 446 of 522 cases. The preoperative general evaluation, immunological and renal pedicle evaluation represented a must. In order to increase the number of transplants we accept the borderline vascular living donor. The living donor nephrectomy respected in our center the international accepted morbidity. No major complication appeared. Mortality was 0. Different vascular anatomy of renal pedicle was found in 33% of cases and this particularity did not stumble the renal transplantation.