Controversial Kidney Transplant Technique Could Help The Very Ill

Surgeons who successfully performed kidney transplants after removing small cancerous and benign masses from the donated organs have published their results in the December issue of the urology journal *BJUI*.

“Transplanting a living donor kidney which has been affected by a renal mass is controversial and considered a high risk,” says co-author Dr Michael W Phelan. “However, the ongoing shortage of organs from deceased donors, and the high risk of dying while waiting for a transplant, prompted five donors and recipients to push ahead with surgery after the small masses were found in the donor kidneys.”

The five renal masses, which were discovered during routine donor evaluation, ranged from 1 to 2.3 cm in size. Cancerous cells were found in three of the five masses and the other two were benign. The kidneys were removed from the donors, put on ice and taken to the recipients’ operating rooms. Surgeons carefully removed the renal mass and a portion of the tissue near the mass was rushed through to pathology for confirmation that the tumor had been completely removed. The kidneys were then reconstructed and transplanted.

One patient developed acute humoral rejection after surgery and was treated appropriately. There were no long-term problems in the transplanted kidneys and four of the patients were alive at the last follow-up, which ranged from nine to 41 months. The fifth died from an unrelated accident about a year after the transplant. None of the donors or recipients showed any evidence of recurring tumors.

The patients in the study ranged from 47 to 61 years of age, with an average age of 54, and the donors ranged from 38 to 72, with an average age of 38. Two of the five donor pairs were unrelated and three were genetically related. All the patients had end-stage renal disease, together with significant other illnesses, such as severe high blood pressure and complex heart problems.

Prior to the transplant, detailed discussions were carried out with each recipient and donor following the discovery of the renal masses in the donor kidney, so that they were both aware of the risks, including recurrence of the tumor. “The global increase in patients with end-stage renal disease highlights the importance of identifying novel means to increase the donor pool,” says Dr Phelan.

“Although donor transplants using organs from deceased people have risen 16 percent and living donor transplants have risen by 68 percent, there continues to be a significant shortage and many patients die each year while waiting for a transplant, he continues. “The current study provides evidence to suggest that kidneys from donors with renal masses offer a minor, yet feasible solution to the

current organ shortage. These organs can be transplanted into recipients with limited life-expectancy on haemodialysis after careful removal of the renal mass. However, diligent follow-up of the donor and recipient is imperative in these cases."

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