

LETTER TO THE EDITOR

Prioritizing renal transplantation based on clinical need: the role of an 'urgent' kidney waiting list

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Dear Editors,

In the United Kingdom, deceased donor kidneys are allocated for transplantation according to the National Health Service – Blood and Transplant (NHS-BT) Deceased Donor Organ Allocation Policy [1]. The complex matching algorithm attempts to provide equity of access by prioritizing based on factors such as waiting time, HLA match, blood group and age difference. However, unlike other solid organ transplantation (e.g. liver and heart), there is no opportunity to prioritize for renal transplantation based on clinical need [2,3].

The median waiting time for a deceased donor kidney transplant is 3 years [4]. Most patients with end-stage renal disease can be maintained on dialysis until an organ becomes available; however, there is a small subset of patients with precarious vascular access for whom transplantation becomes a priority, without which they may die through vascular access loss [5].

Locally, in the West of Scotland, we recognized a small cohort of patients with precarious vascular access whose lives were threatened by potential access loss. It was acknowledged that these patients might benefit from priority allocation of high Kidney Donor Risk Index (KDRI) organs, which might not be suitable for other recipients. Within the context of national allocation, it remained possible to locally allocate donation after circulatory death (DCD) kidneys from donors ≥ 50 years old or with other adverse prognostic features or tier E donation after brainstem death (DBD) kidneys preferentially to patients with 'end-stage' vascular access (ESVA) (bilateral central venous occlusion, failed or contraindication to peritoneal dialysis and survival

deemed by the multidisciplinary team to be <1 year on haemodialysis as a result of predicted access failure). We describe our early experience with this approach.

Over a 4-year period, 22 patients with ESVA were identified. Eighteen were transplanted during the study period (nine via the 'priority' list, six via the national allocation policy, three live donors). Half of those who were transplanted had cRF $>95\%$. Median donor age was 66 years (range: 7–71 years). All but one were DCD organs. Mean KDRI was 2.5. Median CIT was 10 h (range: 6–18 h). Recipient age and wait time were comparable to the overall transplant cohort. One-year patient and graft survival was 88.9%. Mean eGFR at 1 year was comparable to the general transplant cohort (62.0 ± 13.4 vs. 58.4 ± 20.9 ml/min/1.73 m²; $P = 0.71$). Transplantation in this cohort of patients reduced both the number and length of hospital admission in the year following transplantation (Table 1).

In all but one case, the patient, who would have been allocated the kidney according to the national algorithm, was transplanted within the subsequent year. The two patients with ESVA who remain on the 'priority' list and have not yet been transplanted both have a cRF of 100% and match score of one.

Within the Eurotransplant Zone, there is the option to prioritize a 'medically urgent' recipient for a deceased donor kidney [6]. Latterly, the Kidney Advisory Group in the UK has discussed the issue of failing access and a national appeals panel has been created. Individual patients with failing vascular access can be discussed for national prioritization on a case-by-case basis [7]. Some clinicians have criticized this approach, suggesting it promotes or rewards bad vascular access practice. Conversely, our strategy, which permits local flexibility in the allocation of high KDRI kidneys within the confines of the national allocation scheme, encourages uniform vascular access practices within the individual transplant centre without disadvantaging those patients who find themselves in a precarious position. It also permits a tailored approach to providing the right organ for the right patient in this unique patient cohort.

Table 1. A comparison between the number of bed days and hospital admissions in patients with ESVA in the year prior to and the year following transplantation. Results are presented as mean \pm SD and are expressed per patient per year.

	In the year prior to transplantation	In the year following transplantation	P-value
Number of hospital admissions (per patient/year)	6.5 (1.6)	2.4 (3.7)	<0.01
Number of unplanned hospital admissions (per patient/year)	4.9 (1.9)	1.4 (3.2)	<0.01
Number of bed days (per patient/year)	21.3 (12.3)	11.6 (13.6)	0.02
Number of interventions* (per patient/year)	5.4 (4.3)	1.6 (0.7)	<0.01

*Interventions include any surgical procedure, for example transplant or vascular access procedure, interventional radiology procedure, for example angiography or nephrostomy or other invasive procedure, for example line insertion performed on the patient.

We believe that this pilot work has demonstrated that priority allocation of high KDRI DCD kidneys to patients with failing vascular access has proven effective with acceptable outcomes and minimal negative impact on the global transplant population.

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