

Aging on the waiting list: should it be a further criterion for cadaver kidney allocation?

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Abstract. Transplant recipients have been selected from our dialysis patients mainly according to the criteria of the best HLA match and the best clinical condition. We have observed that, in using these criteria, most of the patients who receive transplants in the first 2 years on the waiting list. The other patients remain on the waiting list with progressively less chance of transplantation due to a deterioration of their clinical condition and the related increase in risk factors.

Key words: Risk factors – Waiting list – Kidney allocation

Considering that donors are scarce and the chance of receiving a transplant is decreasing [4], the goals in developing an organ allocation system should include fairness (equal opportunity), efficacy and practicality [1]. Many of these goals frequently conflict, so that each transplant center has its own method of allocating kidneys. In this paper we review our experience with criteria for kidney allocation as both a transplant center and a dialysis unit.

Our own transplant program began in 1988. Until then we referred our dialysis patients abroad or to other Italian waiting lists for transplantation. Most of these transplant programs considered HLA-A, -B, -DR matching as the major criterion for kidney allocation. Because of the large size of these waiting lists, two or more equally matched patients were often found. We feel that in such cases the selection of the patient was mainly on a clinical basis.

In order to verify the impact of such a transplant policy on the waiting list, we reviewed the records of our transplant recipients and those of our patients still waiting for a transplant.

Materials and methods

We reviewed the records of 120 transplant recipients and the records of 58 of our dialysis patients still waiting for a kidney transplant. We also reviewed the records of 180 uraemic patients waiting for a transplant on our waiting list who came from other dialysis units.

After reviewing reports in the literature, we considered the following as risk factors for transplantation:

- Sensitization [3]. We arbitrarily considered at risk patients with more than 30% panel reactive antibodies.
- Clinical condition [2].
- Peripheral vascular disease.
- Urinary tract disease [6].
- Age [5]. We considered at risk patients older than fifty years.

According to the presence of one or more of the above risk factors each patient on the waiting list was allocated a 'risk score'.

Results

Figures 1 and 2 show, respectively, the time on the waiting list for our transplant recipients and for our patients still waiting for a transplant. We found that 80% of the transplant recipients received transplants during the initial

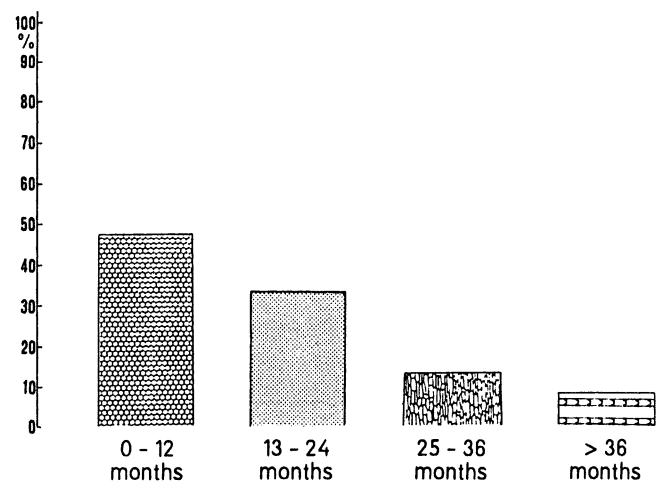


Fig. 1. Time elapsed on waiting list for our 120 transplanted patients

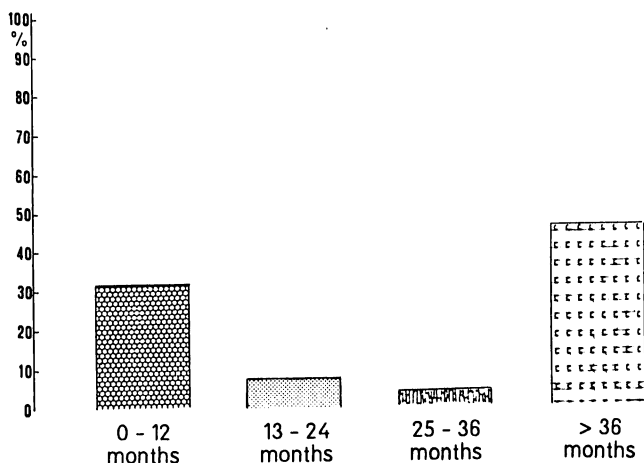


Fig. 2. Time elapsed on waiting list for our 58 dialysis patients still waiting for a transplant

2 years of waiting. In contrast, 47% of the patients still waiting had been on the list for more than 36 months, and would probably never receive a graft.

The overall prevalence of the risk factors considered were as follows: sensitisation (27%), poor clinical condition (37%), vascular disease (21%), urinary tract disease (23%) and age (31%). Of the 180 patients waiting for a transplant on our list, those waiting for 1–2, 3–4, 5–6, 7–8, and more than 8 years had a mean risk score of 0.57, 0.68, 1.54, 2.27 and 1.93, respectively.

Discussion

Most of our dialysis patients who received a transplant did so in the first years of waiting. Only 7% of the transplant recipients waited longer than 36 months. In contrast, the majority of our patients still waiting for a transplant have been waiting for more than 36 months, and, according to previous reports, these patients have a poor chance

of receiving a transplant. We believe that this is a consequence of the selection criteria. Selecting a patient for transplantation relying only on the best match and, secondly, on the best clinical condition, has two consequences:

1. The 'lucky' patients will receive transplants in the first years of waiting with good matches, low risk and good results.
2. For the 'unlucky' patients, the risk factors will increase year by year, and many of them will never be considered for transplantation, particularly in cases of long waiting lists.

Reviewing the records of the uraemic patients waiting for a transplant on our own program, we observed that the incidence of dialysis-related risk factors increases year by year while the patients are on the waiting list. As a consequence, we think that, besides the above-mentioned factors (i.e. good match and good clinical condition), the time on dialysis therapy should also be considered as a criterion in kidney allocation.

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