

Exclusion Reasons of Living Kidney Donor Candidates

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Abstract

Introduction: Kidney transplantation from living donors is increasing, and living donor selection criteria must be strict to ensure the safety of donors.

Materials and methods: It is a single center retrospective study over a period of 7 years.

Results: There are 43 challenged donors. The average age is 43.9, of whom 58.3% are women, the applicants for the donation were essentially from 44.4% ascendants, and the causes of donor exclusion were: the presence of donor-specific anti-HLA antibodies, positive cross-match, age limit, diabetes, arterial hypertension, obesity, disturbed renal morphological abnormalities and vascular abnormalities

Conclusions: The selection criteria for living relatives have been expanded to increase the chances of receiving a kidney; however, some contraindications remain incontestable.

Keywords: Kidney; Living donors; Kidney transplantation

Introduction

Advances in renal transplantation in recent years have increased the number of transplant recipients, but the shortage of grafts from cadaveric donors requires us to refer to living donors. In order not to harm the donors, the criteria for selecting living donors must be strict in order to ensure the safety of the donors on the one hand and optimize the results for the recipients on the other hand. The purpose of our work is to determine the epidemiological profile of the challenged donors, and to identify the medical causes of exclusion.

Methods

It is a single center retrospective descriptive and analytical study, on 43 donors rejected of kidney donation over a period of 7 years between 2011 and 2018, conducted in the nephrology department of Casablanca. The parameters analyzed are: age, sex, relationship between donor and recipient, medical causes of refusal.

Results

These are 43 recused donors, the average age is 43.9 years (23 to 66 years), of which 58.3% are women and 41.7% are men and BMI 25.7 ± 3.8 kg/m², the applicants for the donation were from ascendants, collaterals and spouses with a rate of 44.4%, 36.1% and 19.5% respectively.

The causes of donor exclusion were: the presence of donor-specific anti-HLA antibodies in the luminex recipient with a Median Fluorescence Intensity of 4767 (three cases), positive cross-match (one case), age limit (four cases), hypertension (three cases), diabetes (five cases), obesity (five cases), disrupted kidney status: renal failure (one case), proteinuria (one case), microscopic hematuria (two cases), morphological abnormality: renal microlithiasis (three cases), renal cysts (four cases), vascular abnormalities (six cases), pulmonary sarcoidosis (one case), myelodysplasia (one case), psychosocial causes in two cases (Table 1).

Discussion

There are many possible ways to address the problem of the living kidney donor (LKD) shortage. We think that the first step should be an accurate analysis of the causes for donor's exclusion.

Potential donors (n)	43
Age (y)	43.9
Sex (female/male)	58.3%/41.7%
BMI (kg/m ²)	25.7 ± 3.8
Related	
Ascendants	44.4%
Collateral	36.1%
Spouses	19.5%
Excluded causes: (n)	
Donor-specific anti-HLA antibodies	3
Positive cross-match	1
Age limit	4
Hypertension	3
Diabetes	5
Obesity	5
Disrupted kidney status	
Renal failure	1
Proteinuria	1
Microscopic hematuria	2
Morphological abnormality	
Renal microlithiasis	3
Renal cysts	4
Vascular abnormalities	6
Pulmonary sarcoidosis	1
Myelodysplasia	1
Psychosocial causes	2

Table 1: Characteristics of potential donors.

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In the present study, 43 of potential living kidney donors were excluded at various stages of preoperative, this percentage was consistent with reports from other groups, which is in agreement with what was reported by Boulahya et al. [1], who reported a 42.3% acceptance rate, and is little bit lower than what was reported by Dahri 36% [2], and a higher rate observed to the New York team at 56.9% by Romagnoli et al. [3], These discrepancies in reports may be explained by the different exclusion criteria and protocols used per each transplantation center.

Analysis of our retrospective series found an average age of 43.9 years. Our results are comparable to those of Tunisia [1], but Algerian team had found a younger age at 37 years by Boulgheraif et al. [4], there is also a male predominance observed in all series of studies.

The predominant relationship between donors and recipients were from the ascendant in 44.4, especially mother donating to her son/daughter, our results joined those of Algeria [4], while the collaterals represent the most frequent potential donors in the series of studies of Mauritania [5] and Tunisia [2].

The main causes of exclusion were vascular and morphological abnormalities, followed by diabetes, obesity and arterial hypertension, then a disturbed immunological assessment.

These results are similar to those of studies conducted in the Maghreb: where we find practically the same causes essentially: ABO incompatibility, presences of donor specific antibodies, positive cross match. Vascular and morphological abnormalities, diabetes, obesity and arterial hypertension [1,4,5]. Most of these findings would never have been diagnosed before having symptoms if these patients did not undergo this evaluation. The donors, in this situation, became patients and could seek specific treatment sooner [6].

In our opinion, the percentage of rejected donors is high. We think there is room for improvement. Indeed, the majority of medical reasons which precluded donation were non modifiable, although one might argue that obesity could to a certain extent be modified

by the individual [7]. Blood group/HLA incompatibility was also among the most common reasons for LKD exclusion in our analysis. The worldwide experience indicates that ABO-incompatible kidney transplantation is well tolerated and effective, representing important step to expand the living donor pool. Therefore, establishing an ABO-incompatible transplant program would help to recruit among this group of potential LKDs [3].

Conclusion

Kidney transplantation from related living donors is first in our context. The selection criteria have been expanded to increase the chances of receiving a kidney; however, some contraindications remain indisputable.

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