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## OBJECTIVES

Renal biopsy is commonly used in assessing a potential non-living donor to decide if marginal kidneys must be allocated as single or double transplant. However it is not clear whether the histological evaluation is really predictive of the outcome of the graft or remains just a pathologic parameter. In our allocation system kidneys with a Karpinski's histological score of 4 or 5 can be allocated as single transplant if donor renal function is optimal and no other risk factor is present. The aim of this study is to compare the outcomes among patients who received a single kidney graft from a marginal donor with optimal renal function but with different histological scores

## METHODS

We compared retrospectively 5 years graft survival and renal function in 44 recipients of a single kidney graft from a marginal donor (older than 60 years) with good renal function and a Karpinski histological score of  $\leq 3$  and 56 recipients of a single transplant with a Karpinski score of 4 or 5. The donors' and recipients' characteristics were compared by means of Wilcoxon's rank-sum test and Fisher's exact test, and survival was analyzed using the log-rank test and Cox regression survival analysis.

## RESULTS

The donors with the worse histological scores were slightly younger ( $68.0 \pm 4.74$  vs  $71.3 \pm 4.6$  years,  $p < 0.01$ ) and had a higher glomerular filtration rate ( $85.8 \pm 28.2$  vs  $76.3 \pm 26.53$  mL/min,  $p = 0.013$ ), but there was no difference in serum creatinine levels ( $0.83 \pm 0.24$  vs  $0.85 \pm 0.30$  mg/dL,  $p = 0.381$ ). Five years after transplantation, there was no difference between the two groups in terms of recipient serum creatinine levels ( $1.8 \pm 0.5$  vs  $1.9 \pm 0.6$  mg/dL,  $p = 0.5$ ), creatinine clearance ( $53 \pm 23$  vs  $49 \pm 27.0$  mL/min,  $p = 0.6$ ) or the rates of graft loss (35% vs 29% vs  $p = 0.5$ ).

	Group A	Group B	P value
Donor male sex	(43.2%)	(48.2%)	0.68
Donor age (years)	$71.72 \pm 4.59$	$68.03 \pm 4.73$	<b>&lt;0.01</b>
Median	71.5	68	
Donor creatinine (mg/dl)	$0.85 \pm 0.30$	$0.83 \pm 0.24$	0.381
Median	0.82	0.8	
Donor eGFR (ml/min)	$76.39 \pm 26.53$	$85.8 \pm 28.2$	<b>0.013</b>
Median	70.83	83.35	
Donor kidney longitudinal dimension by ultrasound (mm)	$107.54 \pm 9.4$	$108 \pm 8.0$	0.893
Median	110	110	
Donor hypertension	31.8%	50%	0.10

Donors' baselines characteristics

	Group A	Group B	P value
Recipient age (years)	$60.18 \pm 6.09$	$60.33 \pm 6.07$	1.0
Median	59	59	
Male sex	32 (72.7%)	40 (73.2%)	1.0
Cold ischemia time (hours)	$18.0 \pm 7.2$	$19.6 \pm 6.5$	0.17
median	19	22	
HLA Mismatch (median-quartiles)	4 (3-4)	4 (3-4.75)	0.263

Recipients' baselines characteristics

	Group A	Group B	P value
Delayed Graft Function	25 (58.1%)	22 (39.3%)	0.07
Acute rejection	8 (18.2%)	8 (14.3%)	0.78
Serum creatinine (mg/dl)	$1.8 \pm 0.5$	$1.9 \pm 0.6$	0.5
Creatinine clearance (ml/min)	$53 \pm 23$	$49 \pm 27.0$	0.6
Graft loss	35%	29%	0.6

Results after 5 years of transplantation

## CONCLUSIONS

In our experience, provided the donor has normal renal function, a difference in the pre-transplant histological score of kidneys from marginal cadaveric donors does not have a significant influence on outcome five years after transplantation

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