

# EARLY PREDICTORS FOR VERY LONG TERM SURVIVALS (>20 YEARS) IN RENAL TRANSPLANTED PATIENTS (RTP): A MONOCENTRIC EXPERIENCE

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## Objectives:

One of the challenging issues in organ transplantations is to determine predictors of long term survivals, but few studies analyze graft outcomes for more than 10 years. We present the results of a retrospective analysis in RTP in our Center between 1981 and 1991 in order to evaluate whether and at which extent functional or histological factors, within the first post transplantation (Tx) year, are predictive for long graft survivals.

## Methods:

Patients are divided in two groups: long survival patients (LS) with a functioning graft for more than 20 years, and short survival patients (SS) with a functioning graft for less than 4 years. Patients in the two groups are from a similar Tx era in order to limit selection bias. Patients are compared for pre-Tx comorbidities (diabetes, dyslipidemia, smoking, cardiovascular events), donor age and post-Tx demographic, clinic and histologic data. Delayed graft function (DGF) is defined as the requirement for dialysis in the first postoperative week; acute rejection (AR) is diagnosed on histological (40%) or on clinical (60%) ground and is calculated on the total f/up.

## Results:

**456 kidney transplants** studied: 97 LS and 65 SS. Only transplants with complete f/up are analyze:

- ▶ **66 LS (mean graft survival 24,2 ± 1,7 years)**
- ▶ **119 SS (mean graft survival 1,3 ± 1,2 years)**

### Early predictors for graft survival – comparison between SS and LS:

- ▶ **statistically irrelevant (p=ns):** native kidneys disease, HLA mismatches, peritoneal vs haemodialysis and their duration, pre-Tx comorbidities, immunosuppressive treatments and donor age
- ▶ **statistically relevant, with significant differences:** see data in the table below

Early predictors for graft survival	LS (66 patients)	SS (119 patients)	p
DGF rate	28,8%	47,9%	0,013
serum creatinine (sCr) at discharge (mean)	1,74 ± 0,47 mg/dl	2,25 ± 1,06 mg/dl	0,005
sCr at 6 months of Tx (mean)	1,36 ± 0,4 mg/dl	2,57 ± 1,46 mg/dl	<0,001
sCr at 12 months of Tx (mean)	1,3 ± 0,3 mg/dl	3,1 ± 1,81 mg/dl	<0,001
proteinuria (Pto) at 6 months of Tx (median)	0,2 g/d (min 0, max 3)	0,8 g/d (min 0 max 6)	0,048
Pto at 12 months of Tx (median)	0,05 g/d (min 0 max 2,3)	2,5 g/d (min 0, max 8,7)	<0,001
AR rate	40,9%	75,6%	<0,001
Chronic transplant glomerulopathy	4,5%	15,3%	0,03

- ▶ At the 20<sup>th</sup> post-Tx year in LS good renal function (sCr 1,47 ± 0,6 mg/dl) and low Pto values (0,52±0,9 gr/d).
- ▶ **Mean sCr value of 1,95 mg/dl is predictor of graft survival** (ROC curve 0.63, sens 55%, spec 68%).
- ▶ In the majority of patients sCr on the long run (> 20 years after transplantation) mirrors sCr at the 1<sup>st</sup> post-Tx year (sCr < 1,2 mg/dl at the 1<sup>st</sup> year → sCr < 1,5 mg/dl after 20 years).

## Conclusions:

The absence of DGF and AR and lower sCr and Pto values at the 1<sup>st</sup> post-tx year, are good predictors for LS. The ROC curve defines a sCr value at discharge > 1,95 mg/dl as a predictor of SS.

Chronic transplant glomerulopathy, as expected, has a negative impact on graft survival. No other parameter is relevant in our population.

Further perspectives studies about immunological factors (i.e. DSA) may in the future suggest also different predictors for long term survival in Tx.

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