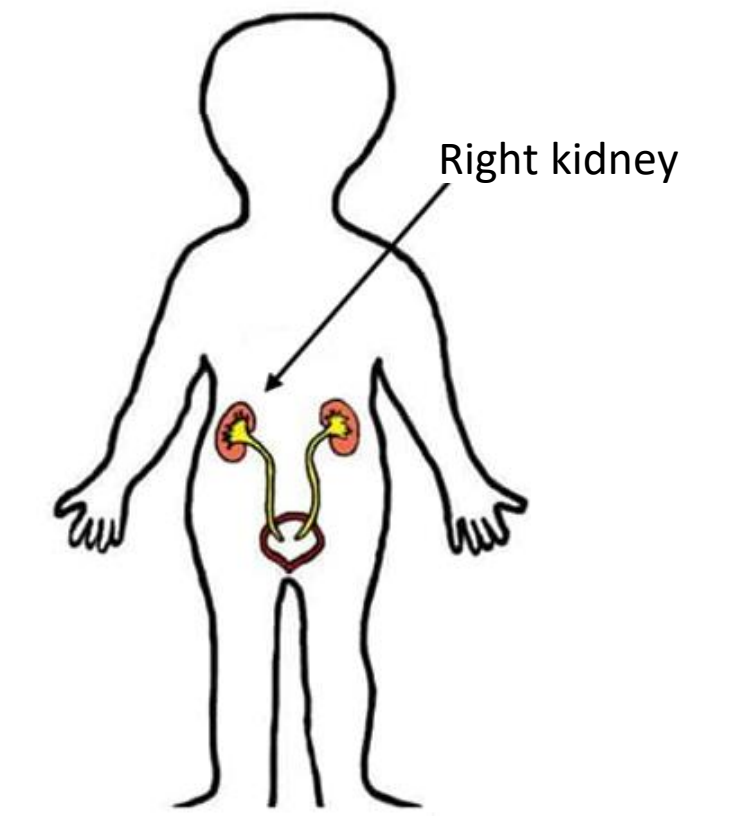


# Graft survival after kidney transplantation in children

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## Background

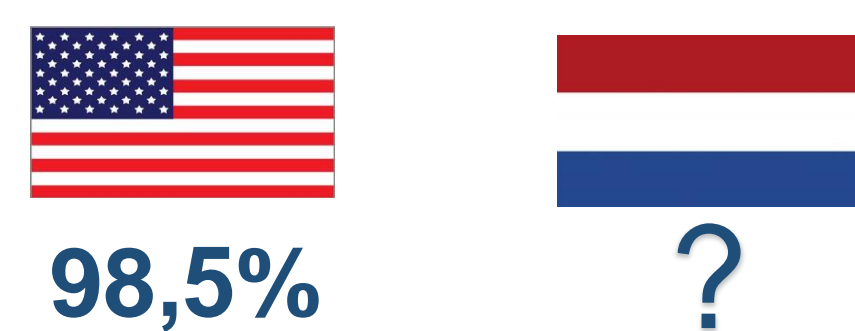
### End-stage renal disease (ESRD) in children

- Kidney transplantation = 1<sup>st</sup> choice treatment
- Prevalence ESRD: 5 per million
- Consequences
  - Growth retardation
  - Neuropsych. developm. problems
  - ↓ QoL

### Graft survival

- Graft failure vs graft survival
- Many factors associated with graft function (i.e. rejection, donor source)
- Great improvement of graft survival over the years

Fig. 1 Most recent 1-yr graft survival rates in US vs NL



## Aims of the study

1. To evaluate the 1- and 5-year graft survival after pediatric kidney transplantation.
2. To detect factors that influence graft function.

## Methods

### Study design

- Retrospective single-center study (N=98)
- ESRD patients ≤18 years old
- Transplanted at ECH between 2004 and 2019

### Statistical analyses

- Cox regression analysis
- Kaplan Meier procedure to visualize survival curves
- Nine determinants separately analyzed

## Results

Table 1. Graft survival rates by transplantation date

COHORT GROUP	GRAFT SURVIVAL	
	1 Y	5 Y
2004-2009	96%	77%
2009-2014	92%	90%
2014-2019	100%	100%

Fig 1. Graft survival curves by transplantation date

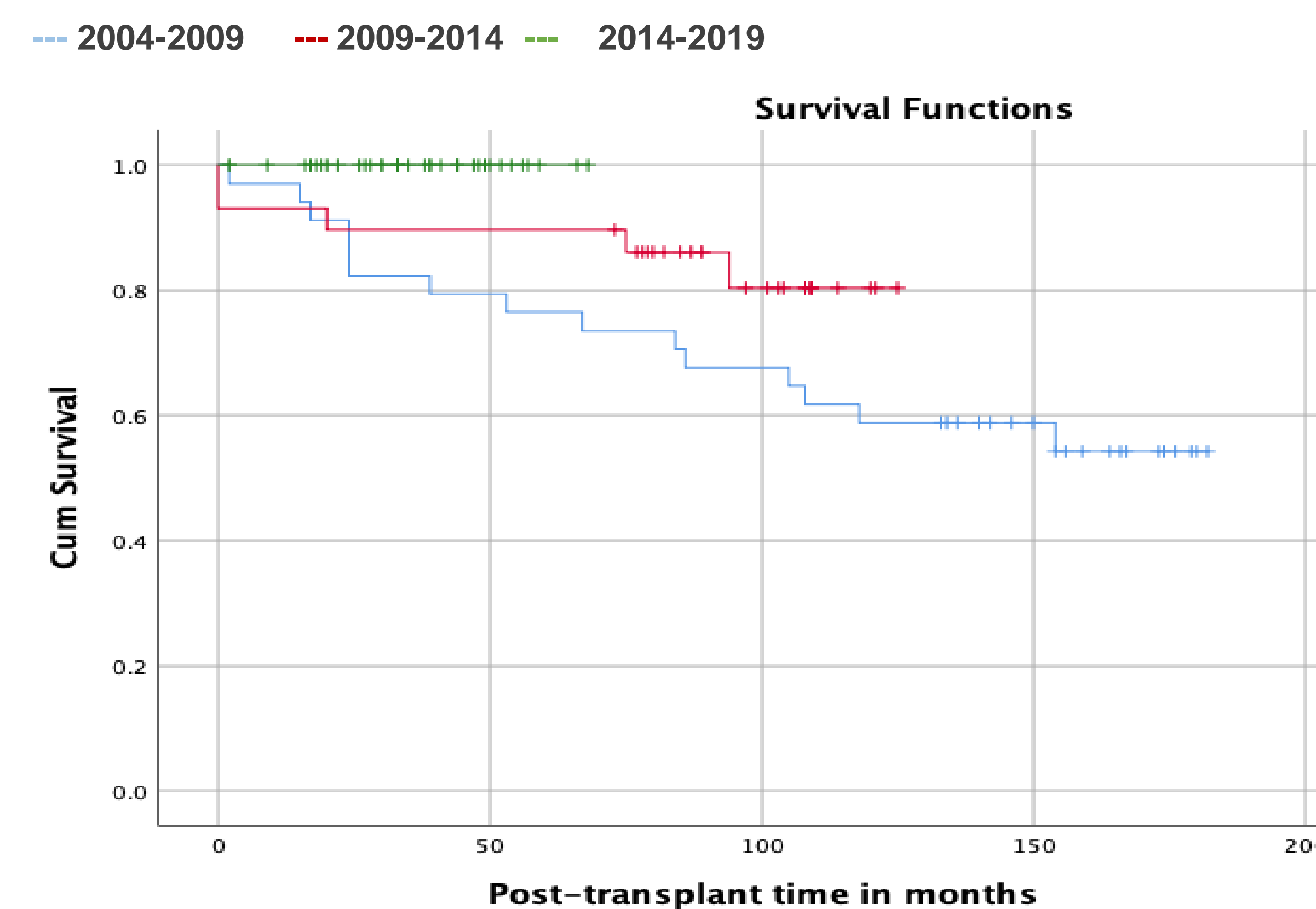


Table 2. Influencing factors on graft function with the corresponding Hazard Ratio, p-value and 95% CI

INDEP. VARIABLE	HR	P-VALUE	95% CI
Rejection	21,517	0,000	7,777 – 59,538
Recipient ethnicity	2,906	0,024	1,152 – 7,334
Donor source	2,790	0,029	1,110 – 7,013

Fig 3. Graft survival curve by rejection

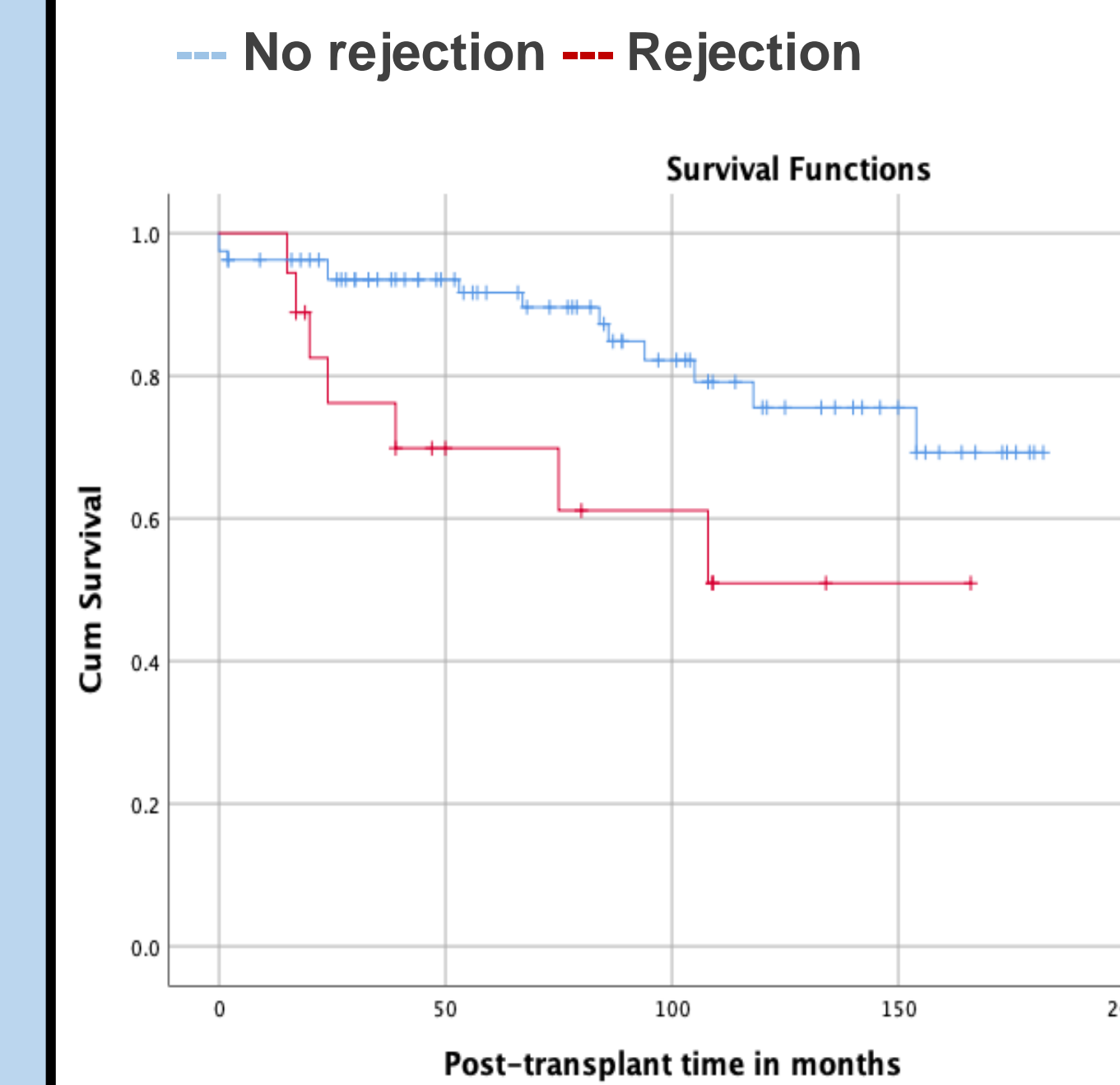


Fig 4. Graft survival curve by recipient ethnicity

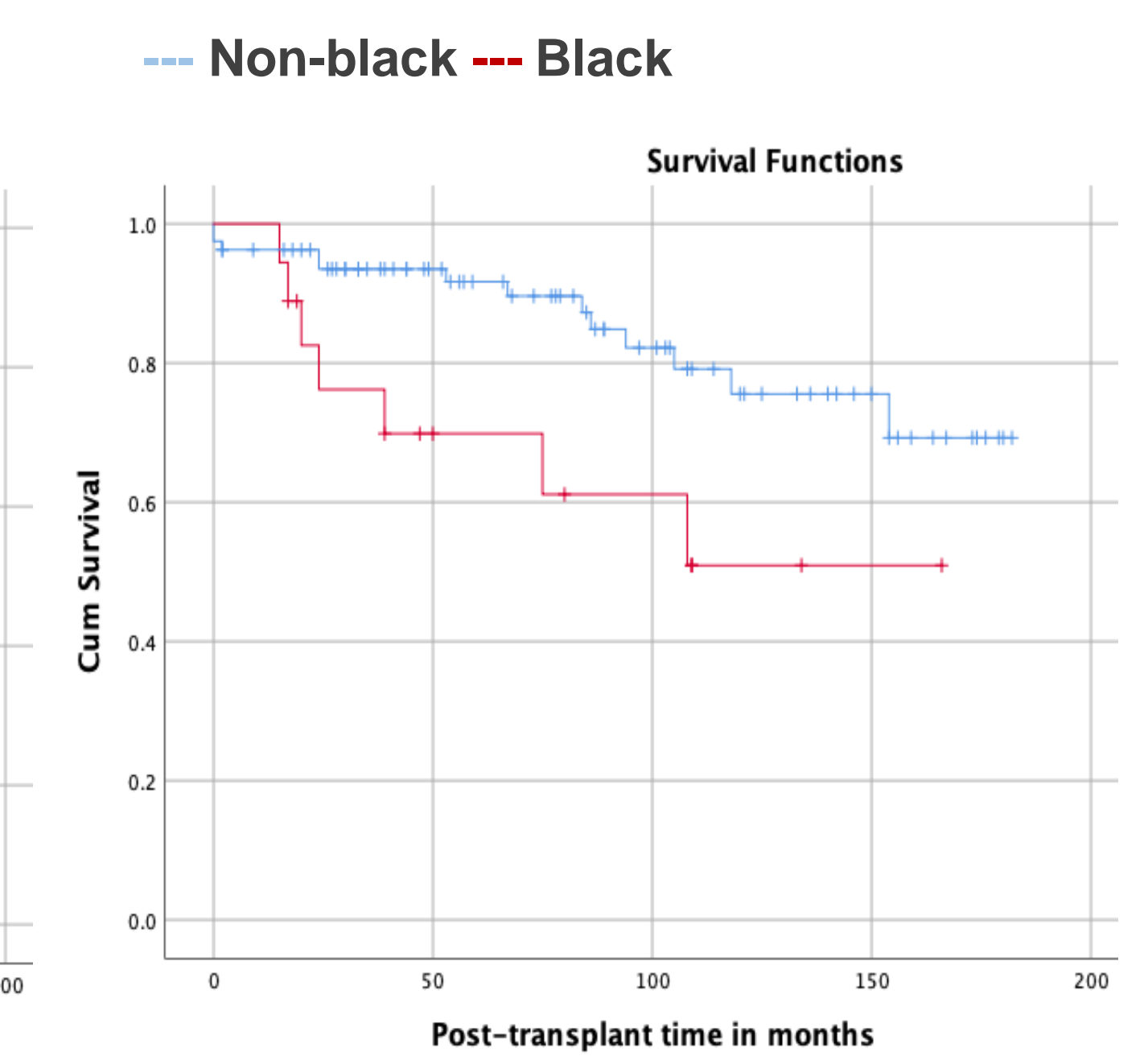
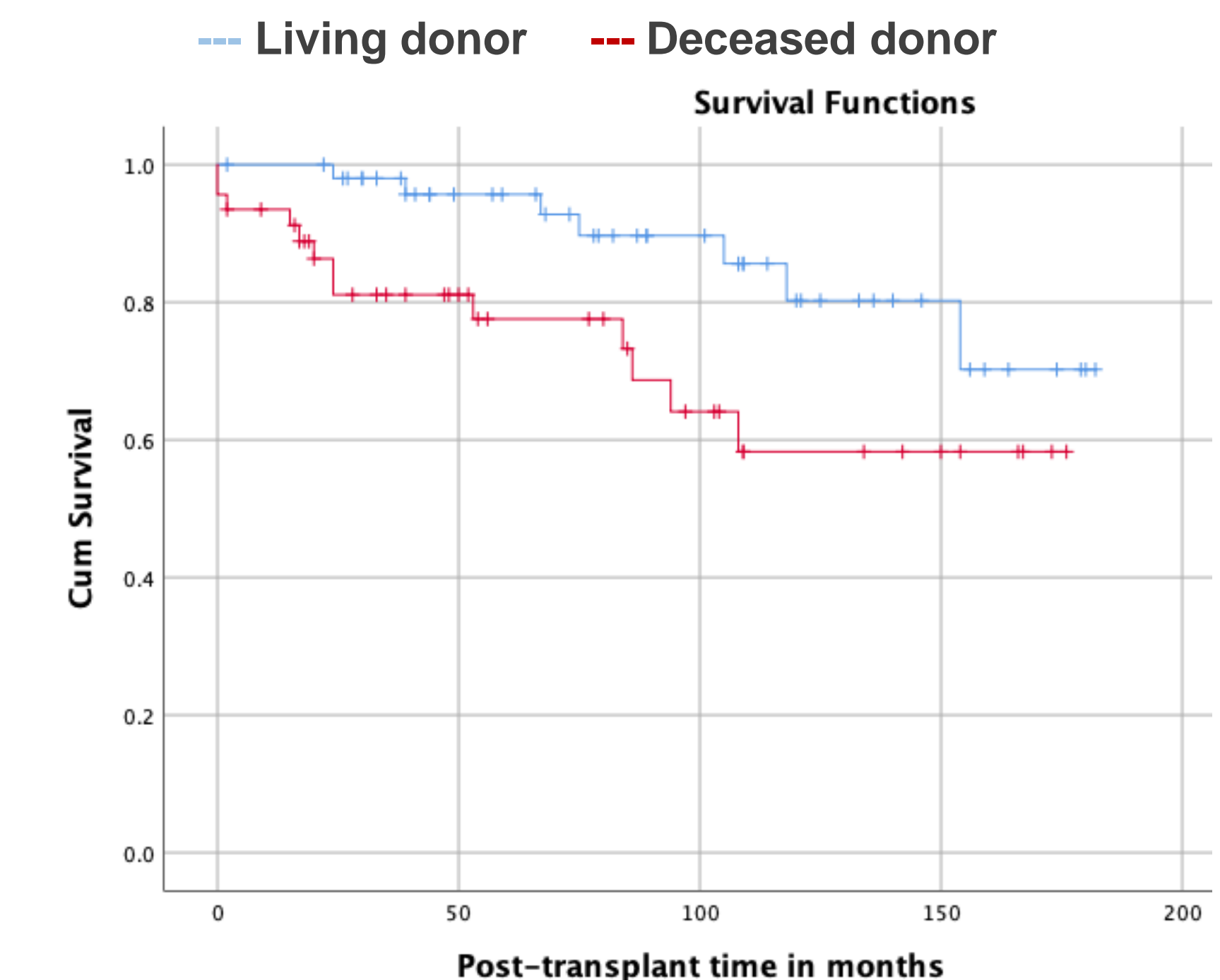


Fig 5. Graft survival curve by donor source



## Conclusion

1. The 1-yr graft survival ranged from 92% to 100% and the 5-yr graft survival ranged from 77% to 100%.
2. Important predicting factors for graft function are **rejection, donor source, recipient ethnicity.**