

VERY HIGH KDPI KIDNEYS IN ELDERLY TRANSPLANT RECIPIENTS – NO NEED TO DISCARD

Fabian Halleck, Dmytro Khadzhynov, Gregor Rehse, Lukas Lehner, Eva Schrezenmeier, Michael Dürr, Klemens Budde and Oliver Staeck

Department of Nephrology, Charité University Berlin, Germany

Background: Very limited data exist on long-term outcomes of very high KDPI kidneys in elderly (≥ 65 years) kidney transplant recipients (KTR). Discard rates of donor organs with a KDPI $> 95\%$ were 72% in the US 2012-14.

Methods: This retrospective single center study included 1007 adult KTR who received a deceased donor kidney 1995-2015 and had complete recipient and donor characteristics at time of transplantation available. KDPI was calculated using the US OPTN data as reference. Post-transplant outcomes were assessed over a maximum period of 21 (mean 7.4) years.

Results: According to the characteristics of the Eurotransplant (ET) Senior Program elderly KTR received significantly older donor organs, spend less waiting time on dialysis, shorter cold-ischemic time and more HLA mismatches. The median KDPI in the study cohort was 67% (Fig.1a), while elderly KTR (n=268) mostly received organs with a very high KDPI (median 97%, Fig.1b).

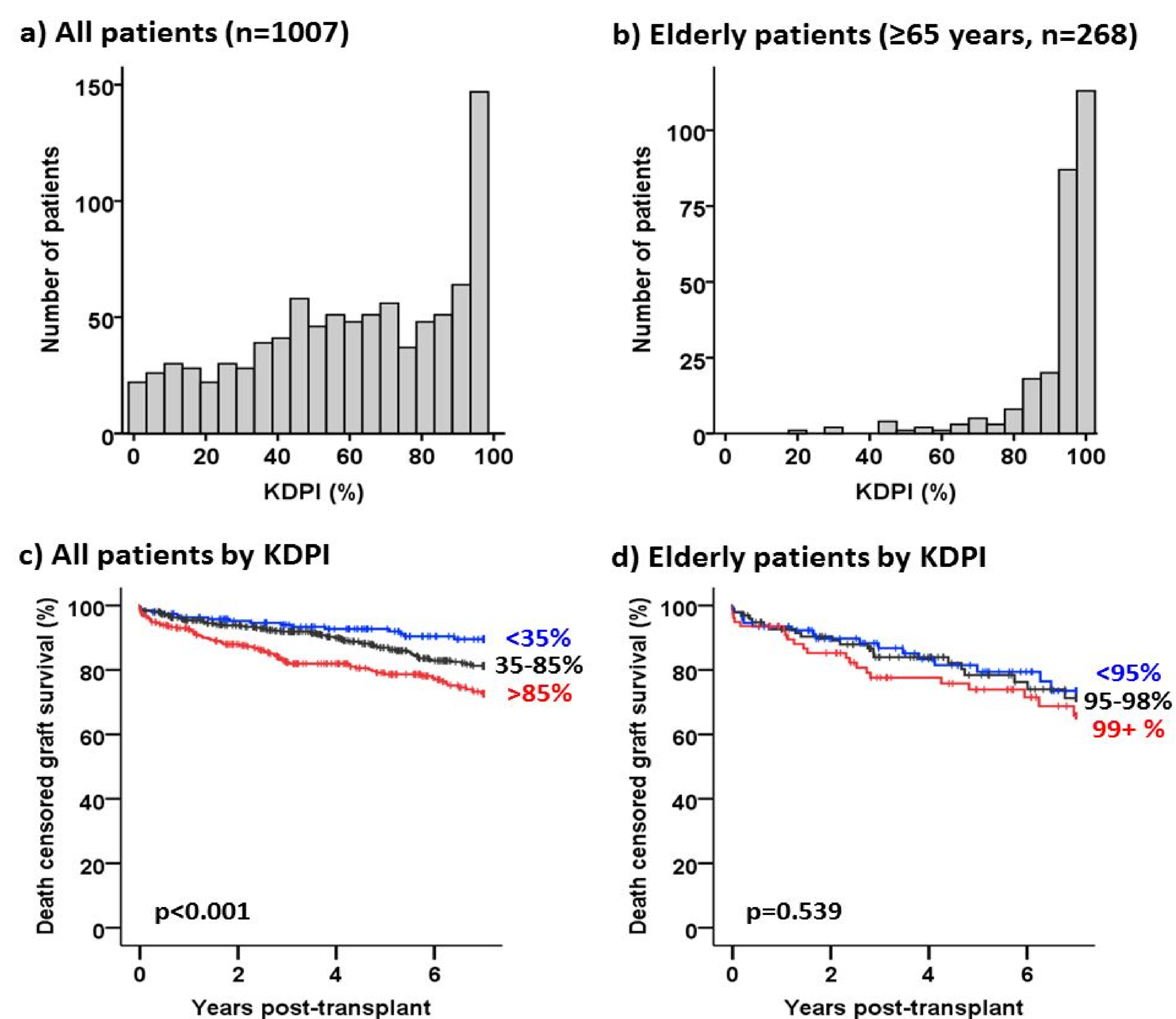
Categorization of all KTR by donor KDPI (<35%, 35-85%, >85%) confirmed significantly poorer survival of grafts with higher KDPI ($p < 0.001$; Fig.1c).

However, the groups of elderly recipients with a very high donor KDPI of 95-98% (n=97, mean KDPI 96.7%) or even 99+% (n=78, mean KDPI 99.4%) showed no significant difference in terms of graft survival compared to elderly KTR with donor KDPI <95% (n=93, mean KDPI 81.4%) ($p = 0.539$; Fig.1d).

Even the category of KDPI 99+ kidneys showed satisfactory graft survival (73.9% after 5 years), while donors in this category had an unfavorable risk profile (mean donor age 76 years, 90% cerebrovascular death, 80% hypertension, 36% diabetes, mean donor cGFR 62 mL/min/1.73m²).

Mean death censored graft survival in elderly KTR was 10.1 years (CI 9.2-11.0), mean life expectancy 8.5 years (CI 7.7-9.4) indicating a good functional match between very high KDPI kidneys and elderly recipients in this cohort.

Figure 1.



Conclusion: In ET elderly KTR frequently receive high and even very high KDPI (99+) kidneys - mostly being discarded in the U.S. - nevertheless resulting in satisfactory graft survival rates. Efforts can be made to increase utilization of those donor organs for elderly kidney transplant candidates.