

NO EFFECT OF 'LUMINEX ONLY' PRE-TRANSPLANT DSAs ON 4 YEAR KIDNEY GRAFT SURVIVAL



Welsh Blood Service
Gwasanaeth Gwaed Cymru

D. SINGLETON, A. DE'ATH, M.T. REES,
A. ASDERAKIS, D. ASPROU & C. DARKE

WELSH TRANSPLANTATION AND IMMUNOGENETICS LABORATORY



Accredited Medical Laboratory
Reference No. 1274
Since 1995



Introduction

The impact of 'Luminex-only' donor specific antibodies (DSAs) on transplant (tx) outcome is controversial. In this single centre study we analysed the effect of pre-tx DSAs detected in the 'day of transplant' sera on kidney graft survival.

Materials and Methods

329 kidney and SPK patients were transplanted with deceased or live ABO compatible organs in Cardiff between 2006 and 2009.

All patients had a negative pre-tx B-cell CDC crossmatch with DTT treated sera. 274 patients had a negative (LCS <40) flow cytometry crossmatch (FCXM) (T-B-), 27 were T-B+, 12 T+B-, 16 T+B+.

'Day of tx' sera were tested for HLA antibodies by LABScreen Mixed kits (One Lambda). Positive samples were tested by LABScreen Single Antigen Class (C) I and CII kits to identify DSAs. Single antigen beads with an MFI ≥ 500 were considered positive.

Patient follow-up was from 18 to 65 months. Death censored analysis used SPSS version 17.0, taking $p < 0.05$ as significant.

Results

- 85 patients (25.8%) had one or a combination of HLA- A, B, C, DR, DR51/52/53, DQ, DP DSAs. 34 had CI DSAs only, 38 CII only and 13 CI and CII.
- MFI of the highest reacting DSA bead (range 511-8192) were 500-1,999 for 58 patients, 2,000-4,999 for 18 and $\geq 5,000$ for 9 patients (all DR51/52/53, DQ, DP).
- 7/85 DSA patients (8.2%) lost their grafts compared to 21/244 (8.6%) non-DSA patients
- There was no significant difference in 1 year (92.9% v 95.5%), 3 year (91.8% v 93.4%) or 4 year (91.4% v 91.8%) graft survival between patients with DSA and those without ($p > 0.05$).

- There was no significant difference when comparing patients with DSA, those with non-DSA HLA antibodies and those who were HLA antibody negative (**Fig. 1a**).
- Graft survival was not different when considering the class of DSA (CI v CII v CI and CII), or increasing the MFI cut-off from 500 to 1,000, 2,000 or 3,000.
- Patients with DSAs were more likely to have a positive FCXM result than those without DSA ($p < 0.0001$), however FCXM positive patients did not have decreased graft survival.
- Patients with a combined DSA and a positive FCXM, a perceived high risk group, did not show reduced graft survival (**Fig. 1b**).

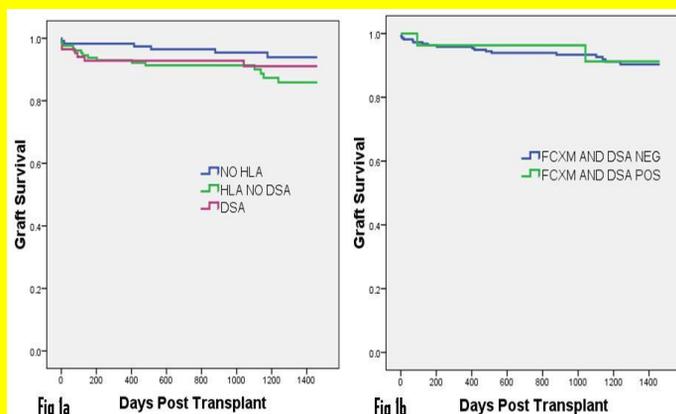


Figure 1. Kaplan–Meier death-censored graft survival.

Patients with pre-transplant DSA, those with no HLA antibodies and those with HLA antibodies non-DSA (**Fig. 1a**).

Graft survival of patients with a combined positive flow cytometry crossmatch (FCXM) and DSA and those with a negative FCXM and no DSA (**Fig. 1b**).

Comments

This study shows that HLA DSA detected by Luminex only, do not impact graft survival up to 4 years post-transplant.

The presence or strength of pre-transplant Luminex DSA alone is not sufficient to identify patients at risk of graft loss.