

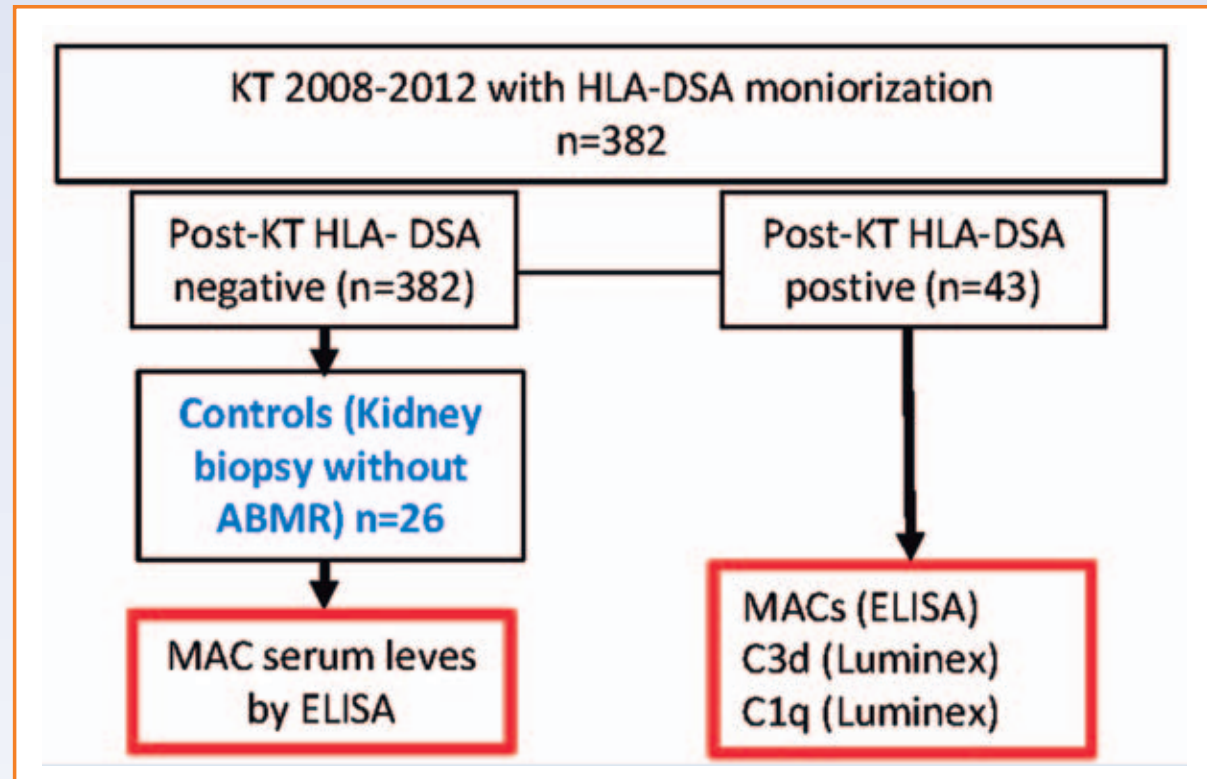
MEMBRANE ATTACK COMPLEX AS A MORE SENSITIVE TOOL TO EVALUATE COMPLEMENT ACTIVATION IN KIDNEY TRANSPLANT RECIPIENTS WITH DONOR-SPECIFIC ANTIBODIES

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Background

Kidney transplant recipients with late HLA donor-specific antibodies (DSA) detected with single antigen beads (SAB) exhibit more frequent antibody-mediated rejection (ABMR) and graft loss. Complement activation is one of the mechanisms involved in ABMR damage and has been assessed by the ability of SAB to bind C1q or C3d. The aim of our study was to evaluate the comparative prognostic information provided by MAC serum level in patients with late DSA class II.

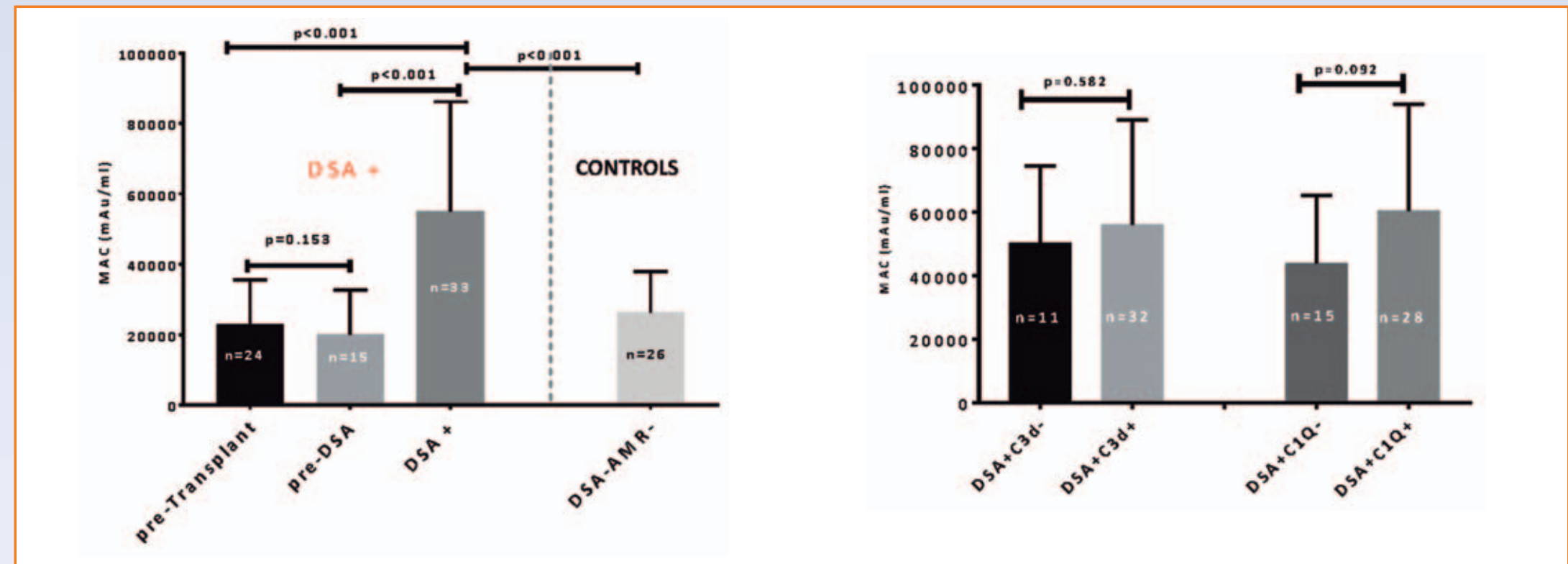
Methods



Highlights

- MAC levels at the moment of DSA were higher than in the same patients pretransplant and posttransplantation before DSA.
- DSA-II positive patients presented poor graft survival compared with DSA- patients.
- Biopsy-proven ABMR was more frequent in patients with MACs high, C3d+DSA and MFI>2995 patients. C1q+DSA was no related with higher ABMR frequency.
- MAC level was the most sensitive assay and showed the best negative predictive value to discriminate ABMR.

Results



	Biopsy-proven ABMR	p-value
MACs high vs MACs low	88% vs 40%	0.014
MFI > 2995 vs < 2995	87% vs 33%	0.005
C3d+ vs C3d-	78% vs 33%	0.033
C1q+ vs C1q-	71% vs 50%	0.333

MAC high (>27000 AU/ml); MAC low (<27000 AU/ml)

	Biopsy-proven ABMR			
	Sensitivity	Specificity	PPV	NPV
MACs high	91%	50%	88%	66%
C3d+	87%	66%	90%	57%
C1q+	70%	50%	77%	30%
MFI >2995	87%	33%	91%	57%

PPV, positive predictive value; NPV, negative predictive value

Comparative between DSA+ vs DSA - patients	DSA + (n=43)	DSA - (n=26)	P
Age at trasnsplant (mean. SD)	43.79± 13.56	52.26 ± 12.67	0.111
Gender receptor (male)	21 (48.8%)	18(66.7%)	0.216
% PRA (max)	16.13±27.36	0± 9.33	0.004
Tacrolimus+Myfortic+Prednisone	36 (83.7%)	25 (92.60%)	0.466
Biopsy proven acute rejection	9 (20.9%)	0	-
Antibody mediated rejection	24 (55.8%)	0	-
Graft loss	19 (44.2%)	4 (14.8%)	0.017
Death-censored graft loss	17 (39.5%)	3 (11.1%)	0.013

Conclusions

Late DSA class II are related with worse graft-survival and a high rate of ABMR (55%). Their capacity to activate complement assessed by C3d binding assays or MACs level are related with ABMR diagnosis, been MACs level determination a more sensitive marker than C3d.