Early effects of first-line treatment with anti-interleukin-6 receptor antibody tocilizumab for chronic active antibody-mediated rejection in kidney transplantation

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DISCLOSURE

The authors of this manuscript have no conflicts of interest to disclose.

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Table 1. Baseline characteristics of the studied population

	TCZ-treated patients (n=15)
Recipient characteristics	
Age at transplant (yrs), median (IQR)	38.3 (23.0-47.5)
Gender male, No. (%)	12 (80.0)
Previous kidney transplantation, No. (%)	2 (13.3)
Time between dialysis and transplant (yrs), median (IQR)	2.4 (1.1-3.0)
Donor characteristics	
Age (yrs), median (IQR)	45.0 (32.5-52.5)
Deceased donor, No. (%)	13 (86.7)
AB0-incompatible donor, No. (%)	1 (6.7)
Cold ischemia time (h), median (IQR)	15.3 (13.6-17.8)
Extended-criteria donors, No. (%)	3 (20.0)
Delayed Graft Function[1], No. (%)	2 (13.3)
Immunology at the time of transplantation	
HLA mismatches, median (IQR)	4 (3-4.5)
Anti-HLA DSA positive, No. (%)	1 (6.7)
vPRA (%), median (IQR)	3.5 (0-83.8)
Functional data at discharge	
sCr (mg/dL), median (IQR)	1.65 (1.50-1.94)
eGFR (mL/min/1,73 m2), median (IQR)	45.1 (39.1-54.7)
Proteinuria (g/day), median (IQR)	0.58 (0.37-0.80)
Time from transplantation to treatment (yrs), median (IQR)	7.1 (4.9-14.4)
Immunology at the time of cAMR	
Anti-HLA DSA positive, No. (%)	15 (100)
Class I, No.	1
Class II, No.	14
Anti-angiotensin type 1 receptor antibody positive, No. (%)	11[2] (84.6)
Functional data at the time of cAMR	
sCr (mg/dL), median (IQR)	1.60 (1.50-1.78)
eGFR (mL/min/1,73 m2), median (IQR)	54.5 (47.5-56.8)

Proteinuria (g/day), median (IQR)	1.10 (0.60-1.52)
Rejection episodes before cAMR, No.	1[3]
Histological findings at the time of cAMR	
Chronic glomerulopathy (cg), median (IQR)	3 (2-3)
Microvascular inflammation (g + ptc), median (IQR)	3 (2-4)
Follow-up (months), median (IQR)	20.7 (18.0-27.8)

vPRA: virtual panel reactive antibody; sCr: serum creatinine; eGFR: estimated glomerular filtration rate; AMR: antibody-mediated rejection; TCMR: T-cell-mediated rejection; SD: standard deviation

[1] Intended as use of dialysis in the first week after kidney transplantation.

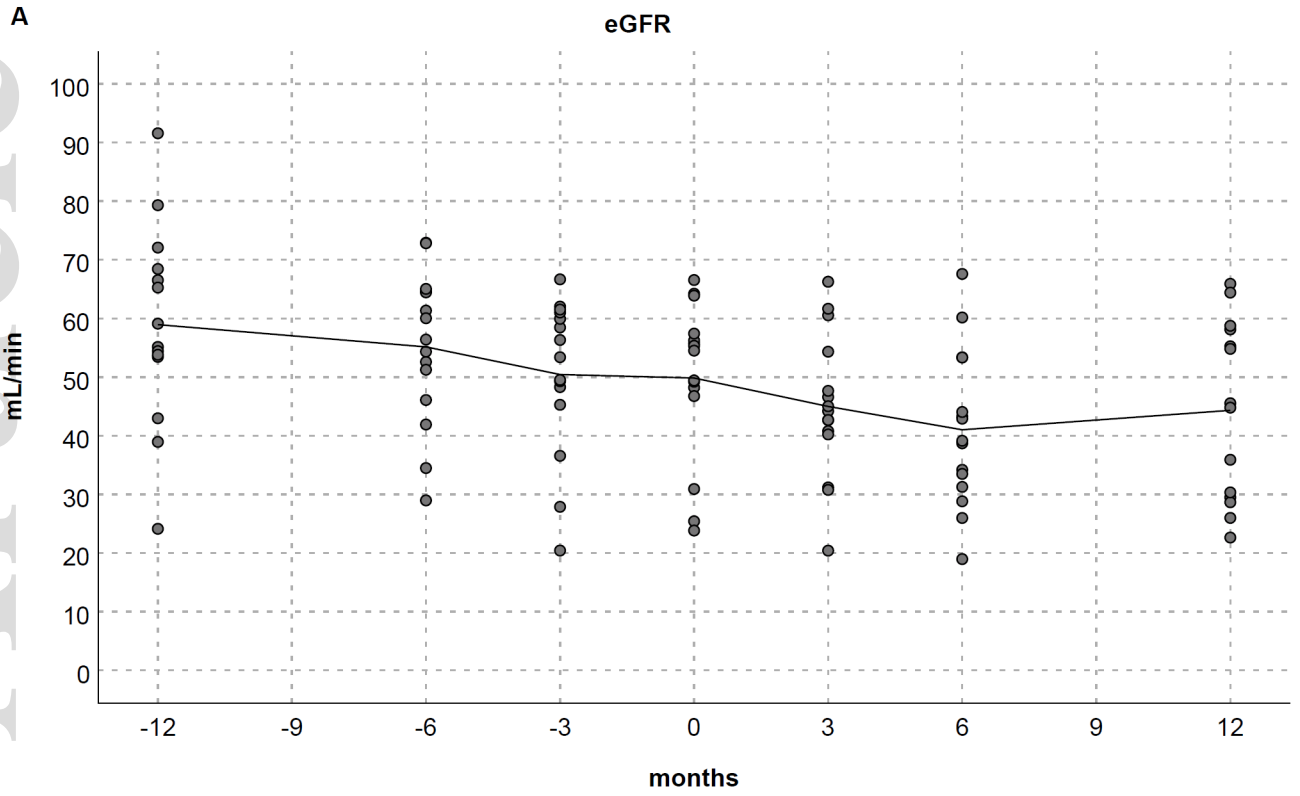
[2] Tested in 13/15 patients with available sera

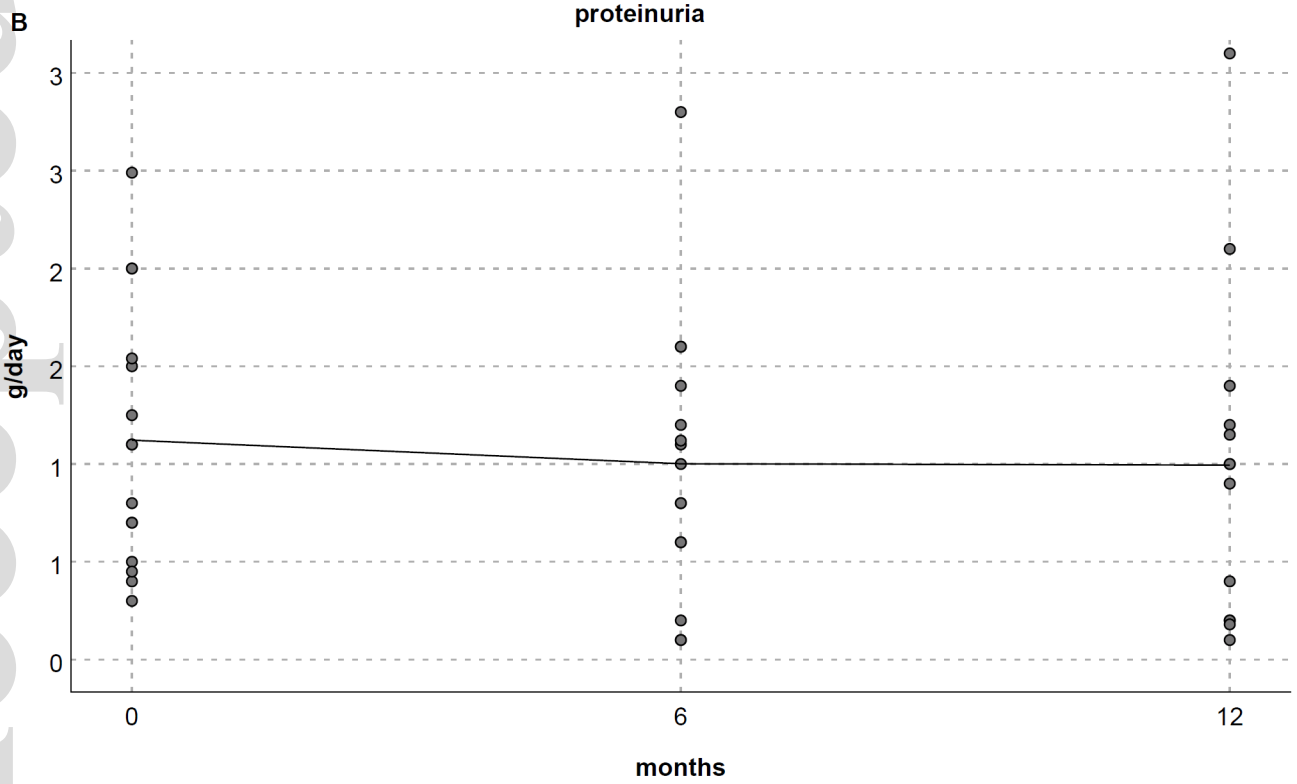
[3] Acute AMR 30 months before cAMR diagnosis

Table 2. Analysis of histological and serological changes pre- and post-tocilizumab treatment

	Pre TCZ	Post TCZ	p
glomerulitis (g), median (IQR)	2 (0-2)	1 (0-1)	0.015
peritubular capillaritis (ptc), median (IQR)	2 (1-2)	1 (0-2)	0.144
microvascular inflammation (g + ptc), median (IQR)	3 (2-4)	2 (1-2.5)	0.145
C4d score, median (IQR)	1 (0-2)	1 (0-2.5)	0.608
chronic glomerulopathy (cg), median (IQR)	3 (2-3)	3 (3-3)	0.206
interstitial fibrosis (ci), median (IQR)	1 (1-2)	1 (1-2)	0.655
tubular atrophy (ct), median (IQR)	1 (1-2)	1 (1-2)	0.414
ci + ct score, median (IQR)	2 (2-3.5)	3 (2-4)	0.448
inflammation in area of IFTA (i-IFTA), median (IQR)	1 (1-1)	1 (1-2)	0.180
arteriolar hyalinosis (ah), median (IQR)	2 (1-2)	2 (1-2)	0.257
vascular fibrointimal thickening (cv), median (IQR)	1 (0-1)	1 (1-1)	0.405
HLA-iDSA, MFI, median (IQR)	22600 (21700-23700)	18200 (12650-22150)	0.002
AT1R-Ab, level (U/mL), median (IQR)	15.8 (12.5-16.6)	8.4 (6.8-11.3)	0.003

TCZ: tocilizumab; IFTA: interstitial fibrosis and tubular atrophy; iDSA: immunodominant DSA; AT1R-Ab: Angiotensin II receptor type 1 antibody





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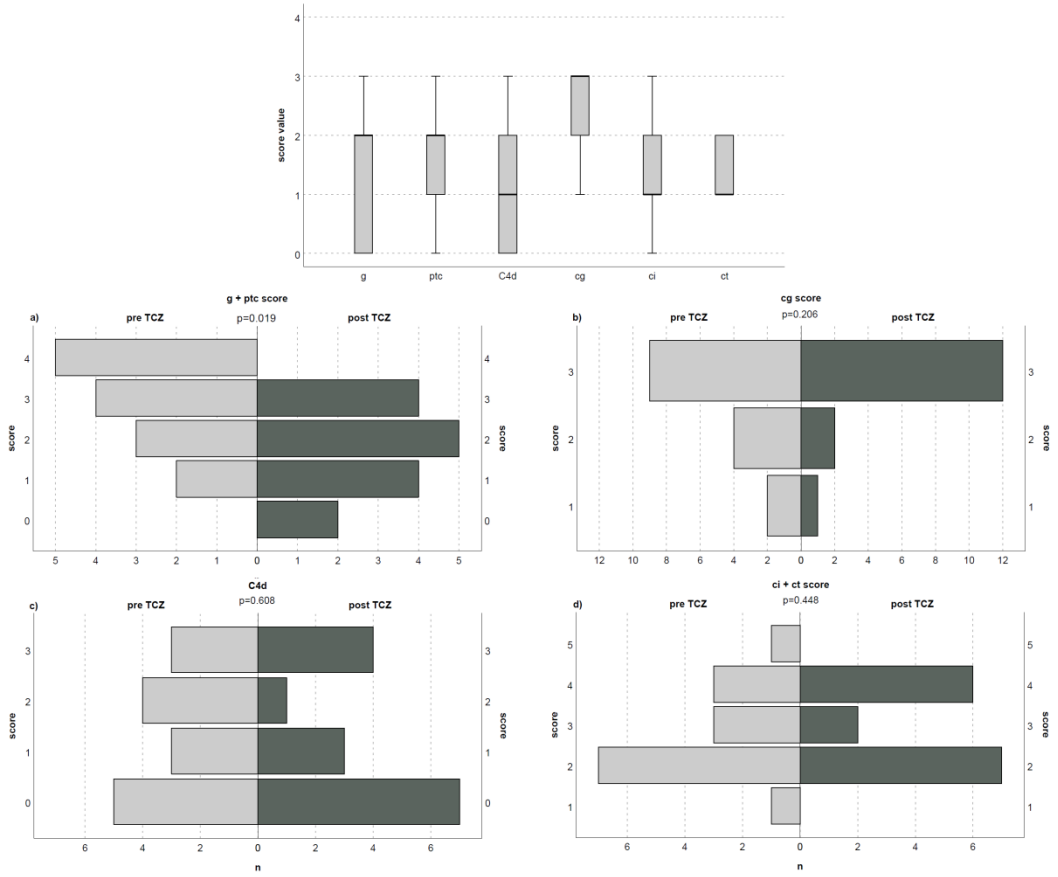

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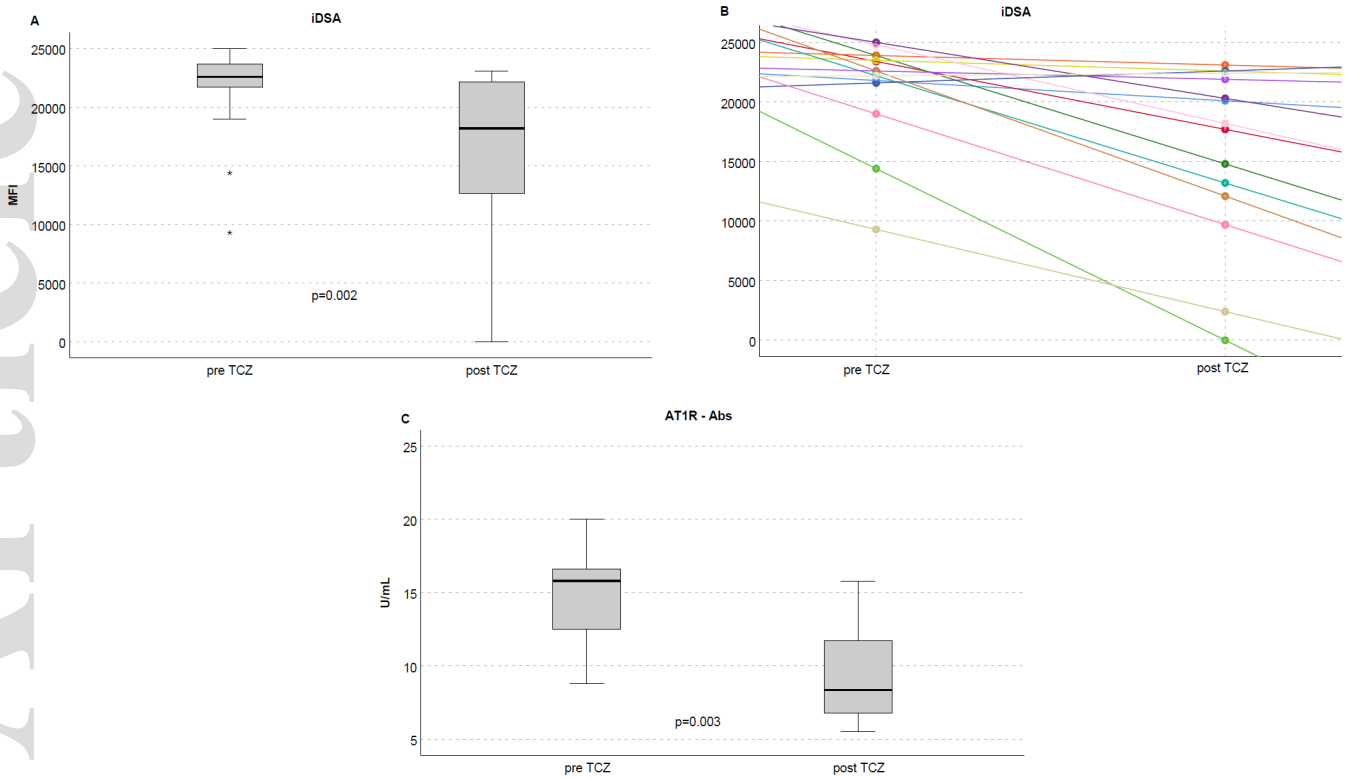

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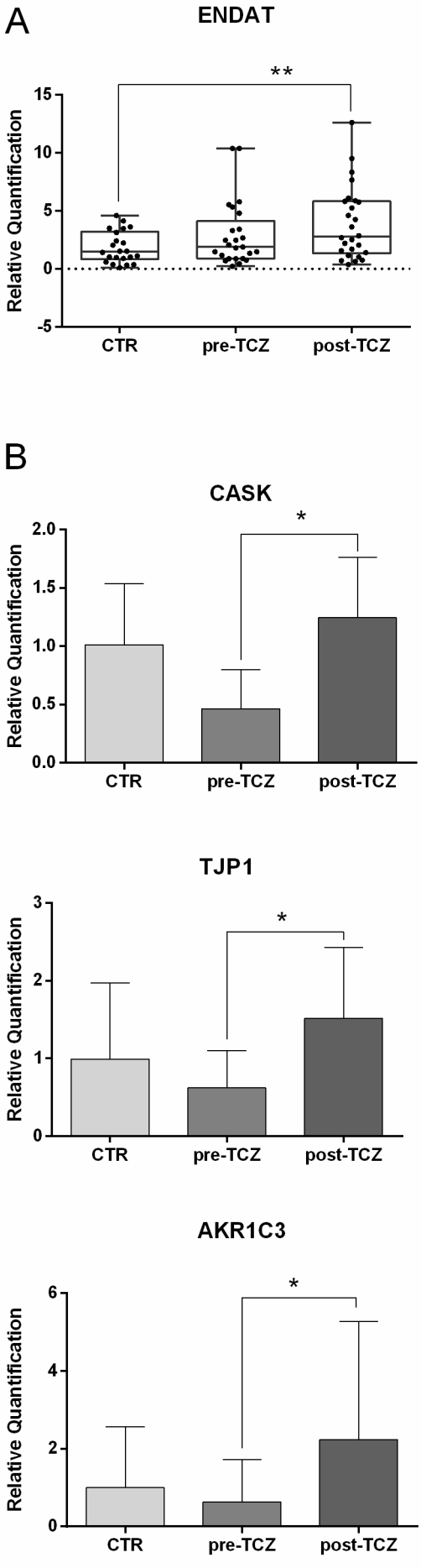

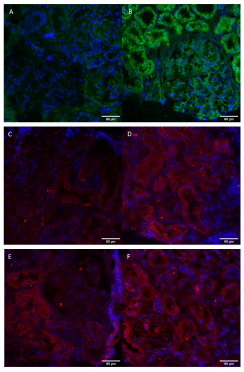

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