TACROLIMUS IN REFRACTORY LUPUS NEPHRITIS

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BACKGROUND

Tacrolimus (TAC) has emerged as an alternative therapy for lupus nephritis (LN) in recent years, but data are almost exclusively in Asian populations. Our purpose was to evaluate effectiveness and safety of TAC in refractory lupus nephritis in a Brazilian lupus tertiary center.

METHODS

Systemic lupus erythematosus (SLE) patients (ACR criteria) who received six months of induction therapy with TAC for refractory LN from 2016 to 2021 were included. Refractoriness was defined as persistence of 24 h proteinuria > 800 mg after induction therapy with cyclophosphamide and/or mycophenolate mofetil (MMF). Clinical, laboratorial, and therapy data were evaluated at baseline (start of TAC therapy) and after six months (T6) by chart review. The median daily dose of tacrolimus was 4 mg (1–6 mg/day). Exclusion criteria was baseline CrCl < 60 mL/min/1.73 m². Complete renal response (CRR): urine P/C ratio < 50 mg/mmol and normal GFR; partial renal response (PRR): > 50% reduction in proteinuria to subnephrotic levels and normal GFR (EULAR definitions).

RESULTS

Twenty-eight SLE patients were included: 85.7% female, 71.4% Caucasian, and mean age was 38.3 (± 7.9) years. Comparative baseline and T6 data are shown in Table 1. Serum creatinine (0.78 ± 0.24 vs. 0.87 ± 0.28 mg/dL), C3 (84.6 ± 31.75 vs. 89.33 ± 22.57 mg/dL) and C4 (15.28 ± 10.07 vs. 14.47 ± 4.97 mg/dL) levels remained stable at T6 compared to baseline (p > 0.05). Fifteen (53%) patients received multitarget therapy (associated with MMF) and 25 (89.3%) were on antiproteinuric therapy; 12 (42.85%) patients required optimization of antihypertensive drug regimens and 5 (17.9%) had creatinine increase over 30% of baseline. Twenty-one (75%) patients showed reduction in proteinuria levels ≥ 50% at T6 compared to baseline. At T6, 15 (53.6%) patients had 24 h proteinuria < 0.8 g, 19 (67.9%) reached PRR and 10 (35.7%) achieved CRR.

Table 1. Comparative baseline and T6 data.

	Baseline (n = 29)	T6 (n = 29)	P
24 h proteinuria (g)	2.45 ± 1.65	1.01 ± 0.99	< 0.001*
Albumin (mg/dL)	3.43 ± 0.59	3.70 ± 0.58	0.089
SLEDAI	12 (4–29)	4 (0–29)	0.008*
Anti-dsDNA+	22 (78.56%)	15 (45.5%)	0.089
Prednisone (mg/day)	20 (7.5–60)	15 (0–40)	0.011*

Data expressed as mean ± SD, median (range), or N (percentage). *Significant.

CONCLUSION

Tacrolimus was safe and effective in proteinuria control and prednisone sparing in a multiracial western population with refractory LN. More research is needed to confirm the potential and long-term safety of tacrolimus in SLE patients.

KEYWORDS

Systemic lupus erythematosus, Tacrolimus, Lupus nephritis.