

RELAPSING STEROID-RESPONSIVE ACUTE INTERSTITIAL NEPHRITIS: A CASE SERIES

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Introduction and Aims

- ◆ Drug-induced acute interstitial nephritis (AIN) represents an emerging cause of acute kidney injury, and corticosteroid (CS) therapy is widely used to achieve renal recovery.
- ◆ However, sometimes patients experience relapse after CS withdrawal, which poses an important therapeutic challenge.
- ◆ Although few clinical cases have been reported, little is known about the clinical characteristics and prognosis of relapsing acute interstitial nephritis (R-AIN).

Patients and Methods

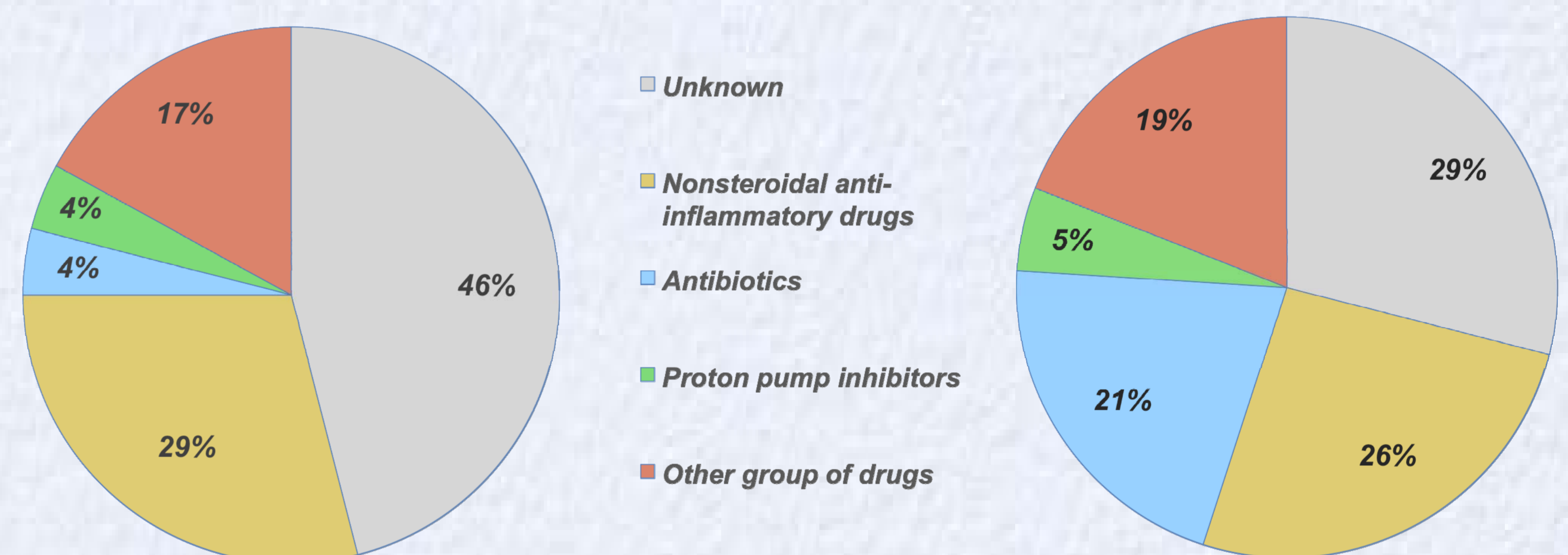
- ◆ Multicenter, retrospective, observational study in 13 nephrology departments belonging to the Spanish Group for the Study of Glomerular Diseases (GLOSEN).
- ◆ Patients with biopsy proven DI-AIN treated with CS between 1996-2016 were included. Other potential causes of AIN such as infections or systemic diseases were carefully ruled out.
- ◆ Clinical, biochemical and histologic parameters of prognostic interest were recorded and used to analyze the main differences between R-AIN and non-relapsing AIN (NR-AIN).
- ◆ The Student's t-test for unpaired samples was used for the comparison of 2 independent continuous variables, or the non parametric Mann-Whitney test, according to the characteristics of the variables. The chi-square test with continuity correction was used to compare discrete variables. Multivariate analysis was not performed given the small size of the sample.
- ◆ Data were presented as mean and standard deviation or as median and interquartile ranges. A $p < 0.05$ value was considered statistically significant. Statistical analysis was performed using IBM's SPSS version 21.

Results

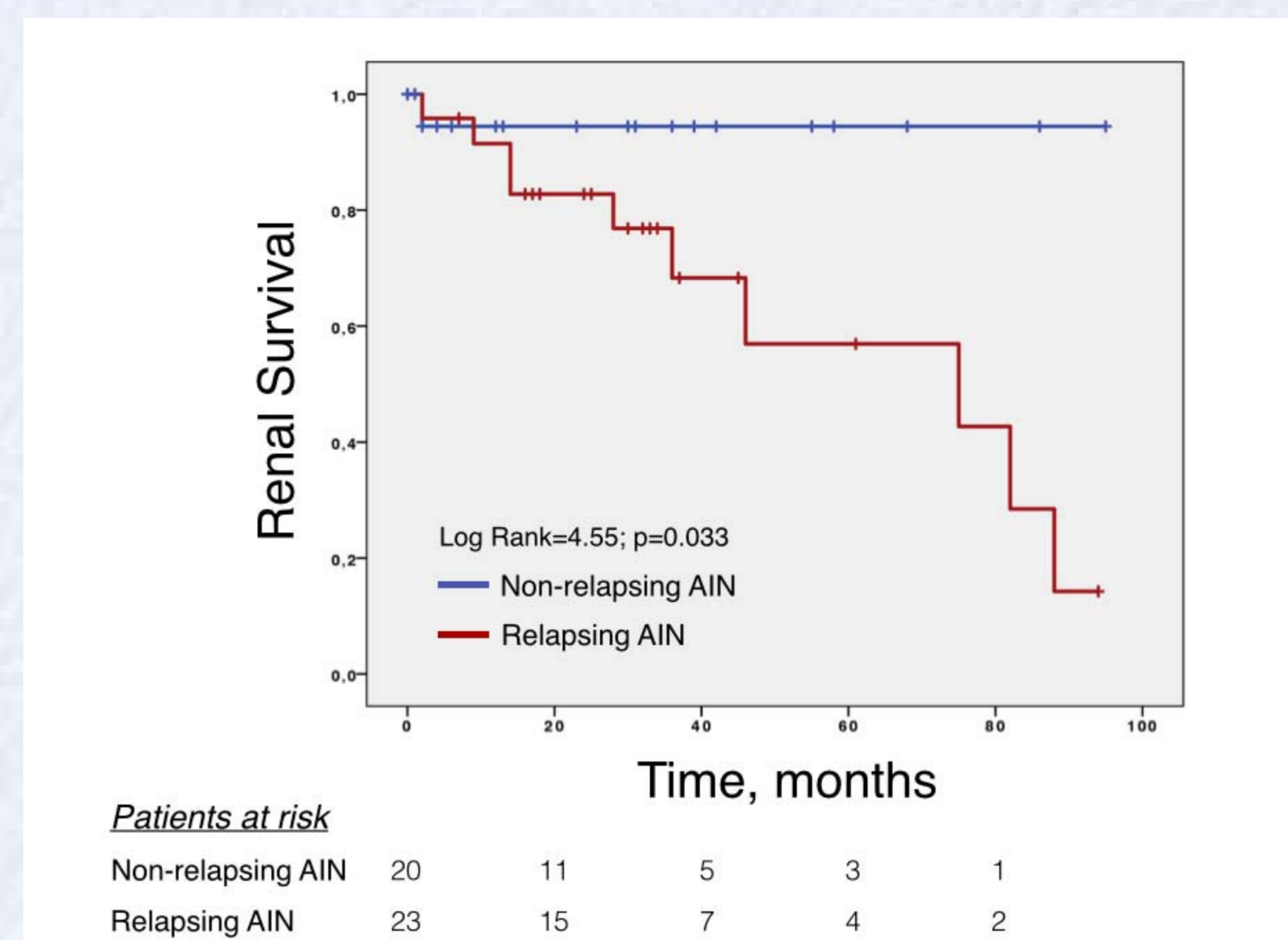
Clinical, biochemical and histologic characteristics of patients with relapsing and non-relapsing AIN

	Relapsing Acute Interstitial Nephritis	Non-relapsing Acute Interstitial Nephritis	P
Patients, N (%)	24 (11)	185 (89)	
Age, years	70±16	65±15	0.195
Sex, male/female	10 / 14	94 / 91	0.399
Rash, N (%)	4 (17)	11 (6)	0.056
Fever, N (%)	5 (21)	34 (18)	0.771
Ocular involvement, N (%)	4 (3)	1 (6)	0.443
Oliguria, N (%)	4 (17)	40 (22)	0.575
Eosinophilia, N (%)	8 (33)	43 (23)	0.279
Leukocyturia, N (%)	19 (79)	130 (70)	0.365
Hematuria, N (%)	12 (50)	102 (55)	0.635
Baseline serum creatinine, mg/dl	1.06±0.3	1.05±0.3	0.829
Baseline serum creatinine >1.5 mg/dl, N (%)	3 (14)	16 (10)	0.500
Serum creatinine at renal biopsy, mg/dl	3.2±1.1	4.5±3.4	0.005
Proteinuria, g/ 24 h	0.7±0.5	0.8±1.1	0.454
Proteinuria > 1 g/ 24 h, N (%)	4 (24)	36 (25)	0.919
Proteinuria > 3,5 g / 24 h, N (%)	0 (0)	7 (5)	0.352
Dialysis at diagnosis, N (%)	4 (17)	42 (23)	0.502
Tubular atrophy, N (%)	13 (54)	104 (56)	1.00
Acute inflammatory interstitial infiltrate, N (%)	24 (100)	179 (97)	0.371
Chronic inflammatory interstitial infiltrate, N (%)	12 (50)	86 (47)	0.746
Interstitial fibrosis, N (%)	15 (63)	101 (55)	0.463
Plasma cell infiltrate, N (%)	13 (59)	84 (52)	0.542
Granulomatous infiltrate, N (%)	1 (5)	11 (6)	0.765
Glomerular sclerosis, %	18 [0-28]	14 [0-24]	0.517
Steroid therapy, N (%)	24 (100)	162 (87)	0.067
Intravenous steroid therapy, N (%)	14 (58)	79 (43)	0.147
Initial dose of steroids, mg/day	57±5	56±12	0.142
Duration of therapy, weeks	10±5	12±8	0.788

Main etiologies of AIN in relapsing and non-relapsing AIN

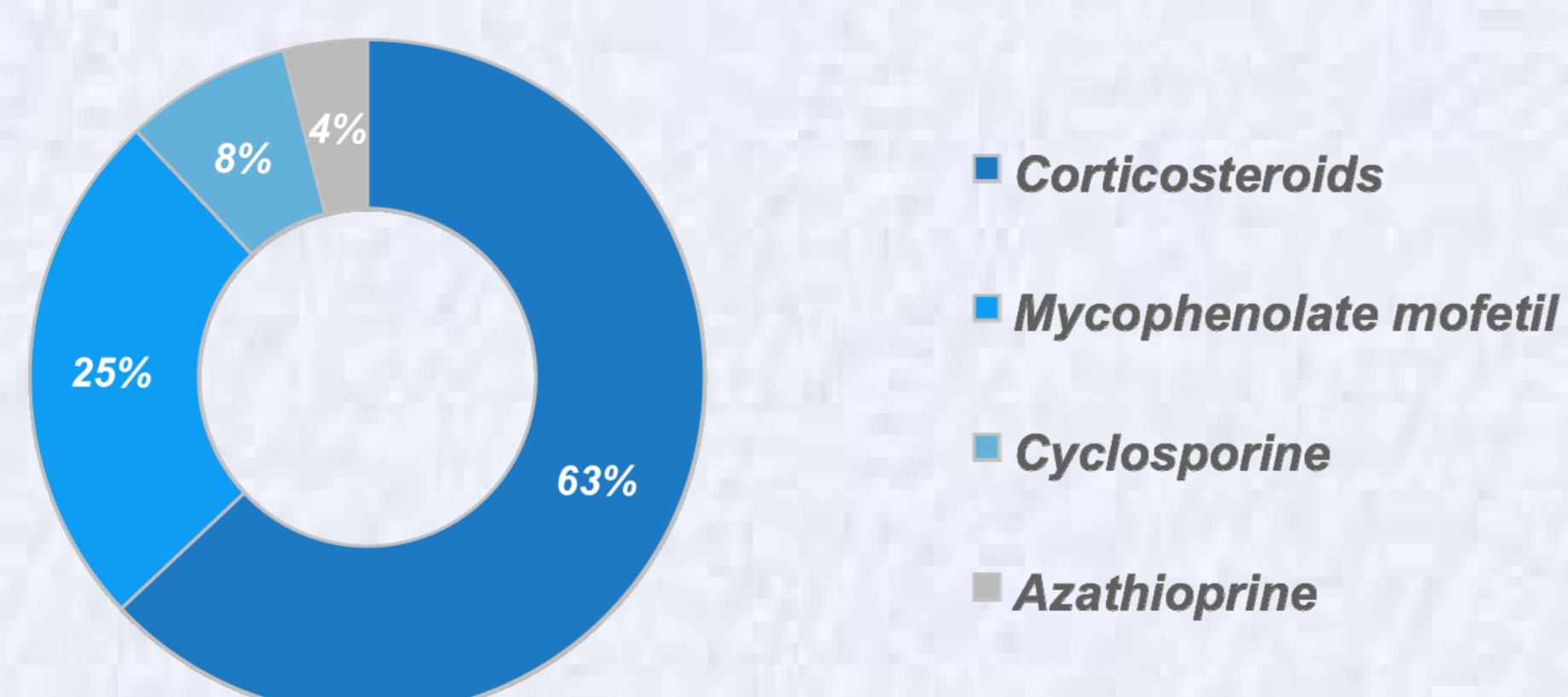


Kaplan-Meier renal survival in 45 propensity score matched patients* with relapsing and non-relapsing AIN



* 24 patients with R-AIN were compared with 21 patients matched for age, sex, baseline serum creatinine, and interstitial damage

Other immunosuppressive therapy used in subsequent relapses



Conclusions

- ◆ Relapses are rare in drug induced AIN but associated with a significant worse prognosis. A careful search for potential offending agents is imperative.
- ◆ Corticosteroid-sparing agents such as mycophenolate mofetil may be a good alternative in R-AIN, although further studies are warranted.

