Oxford classification of IgA Nephropathy in Romania: where do we stand?

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BACKGROUND

IgA Nephropathy (IgAN) is a heterogenous disease because of the inconsistency of clinical pattern, variability in pathologic features, and a geographic-dependent prevalence. The Oxford classification of IgAN provides a histopathologic grading system that is associated with kidney outcome independent of clinical features. Therefore, we aimed to validate the Oxford classification in a representative population for Romania.

METHODS

We retrospectively examined the outcome at 31 December 2014 of 121 adult patients (mean age 40.1 [37.8-42.4] years, 69% male, eGFR 47.0 [43.0-50.4] mL/min) from two tertiary academic medical care centers with biopsy proven IgAN (between 2002-2013). Patients with less than eight glomeruli on renal biopsy and insufficient clinical data were excluded from the study. The primary endpoint was kidney survival defined as doubling of serum creatinine or end-stage renal disease (ESRD). Renal biopsies from all patients were scored according to Oxford classification of IgAN by one pathologist who was blinded to the clinical information.

RESULTS

More than half of the patients had arterial hypertension at baseline (58%). Mean eGFR was 47mL/min; 23% of the patients had a eGFR less than 30mL/min, while 40% more than 50mL/min. Median proteinuria was 2 [1.7-2.3] g/day and 26% of the patients had proteinuria less than 1g/day. Almost all of the patients received RASI agents (98%), while half were on a form of immunosuppressive treatment during the observation period (49%). Median follow-up time was 47 [35-61] months. The Oxford classes' prevalence was: 72% M1, 23% E1, 79% T1, 71% S1; 31% had extracapillary proliferation. In univariate time-dependent analyses, regarding the composite end point, T1 and S1 were associated with impaired renal survival. Also, the same histological patterns had significant impact on RRT initiation (T0 13.3 [12.3-14.3] vs. T1 11.4 [9.8-13.0] years, p=0.03; S0 13.9 [12.1-15.8] vs. S1 9.9 [8.5-11.3] years, p=0.07).
In the Cox regression model, the only independent predictors of decreased renal survival were eGFR at time of biopsy, S1 and the presence of extracapillary proliferation.

CONCLUSIONS

Extracapillary proliferation and segmental seclerosis had the greatest importance in defining the renal prognosis of patients with IgA nephropathy.

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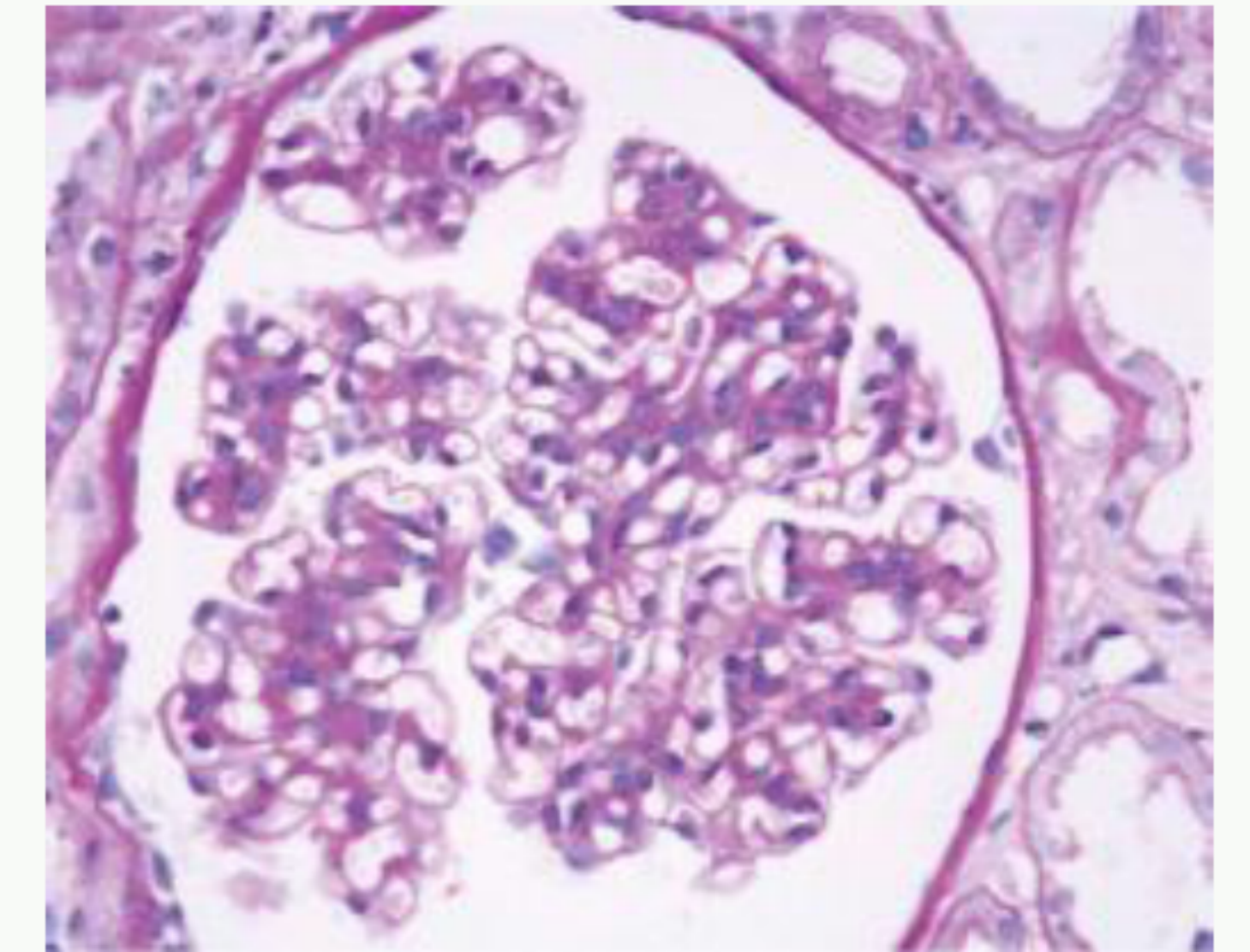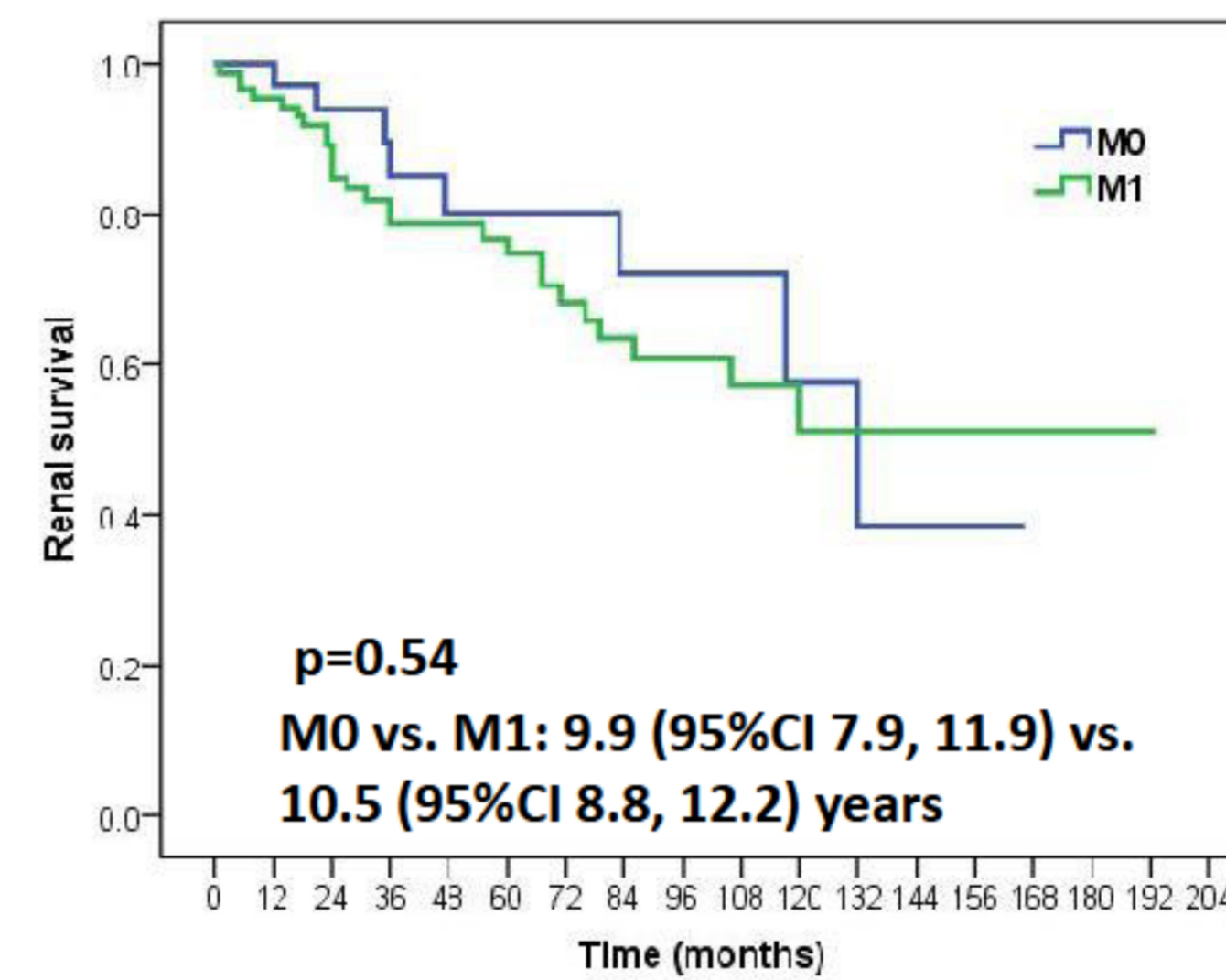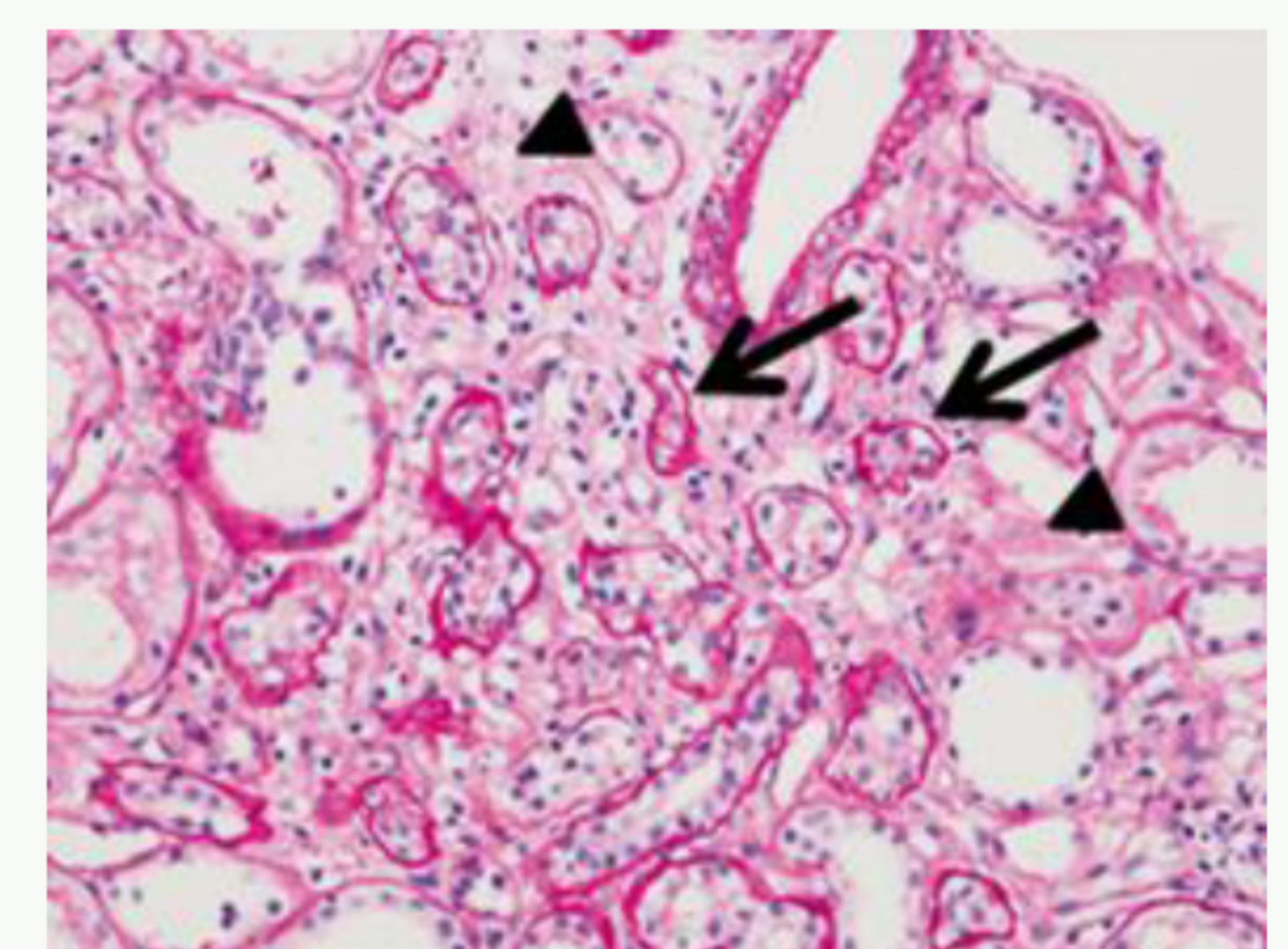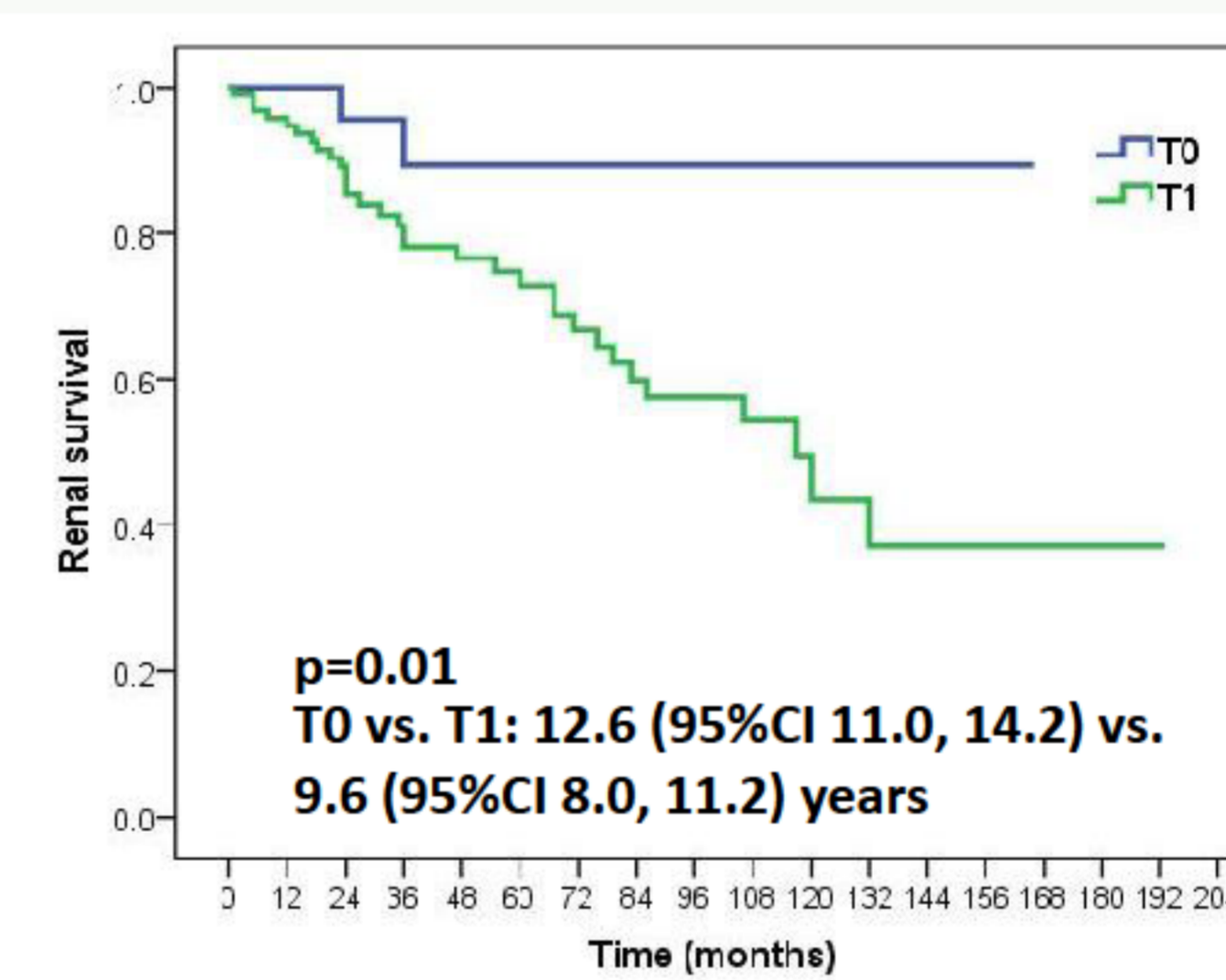
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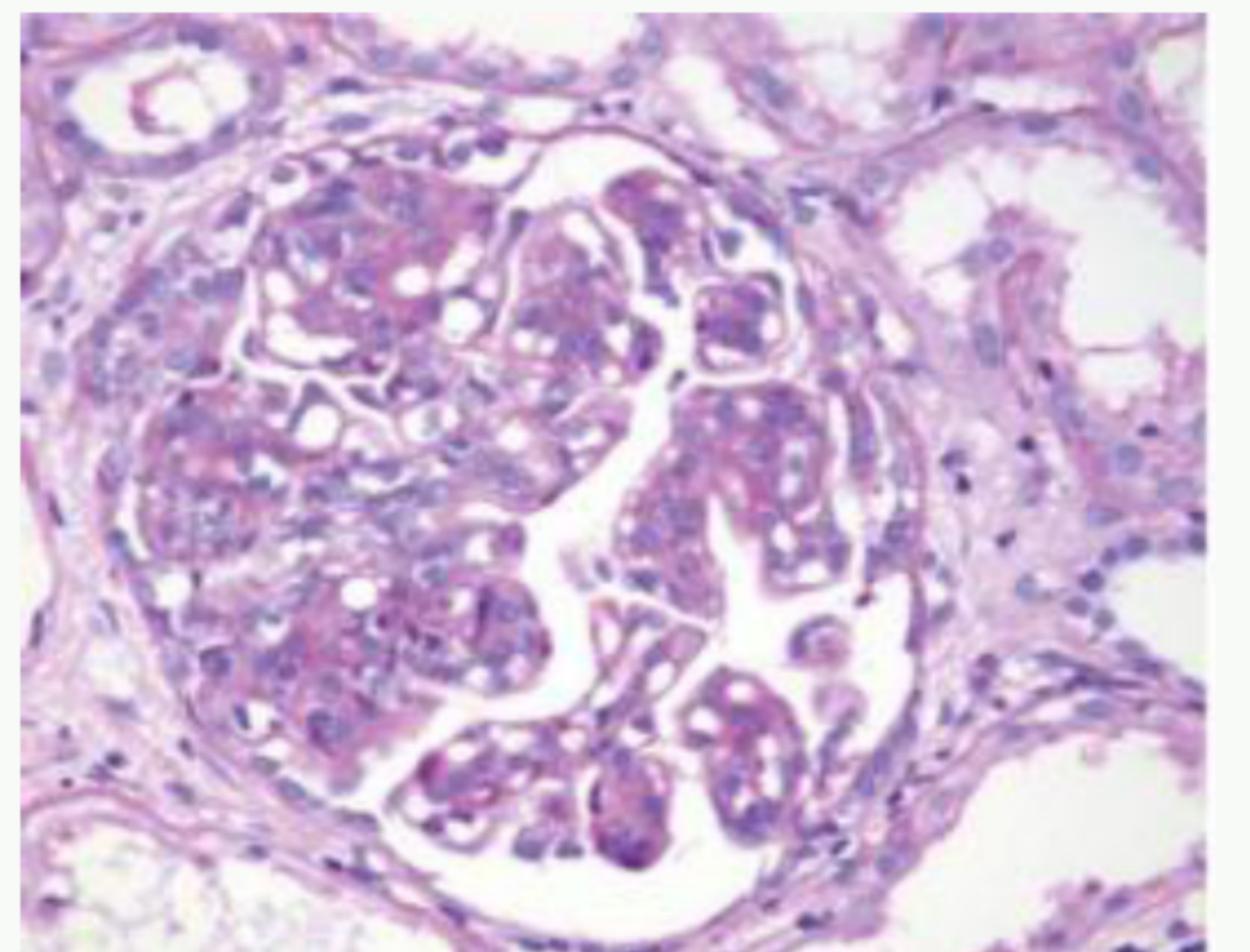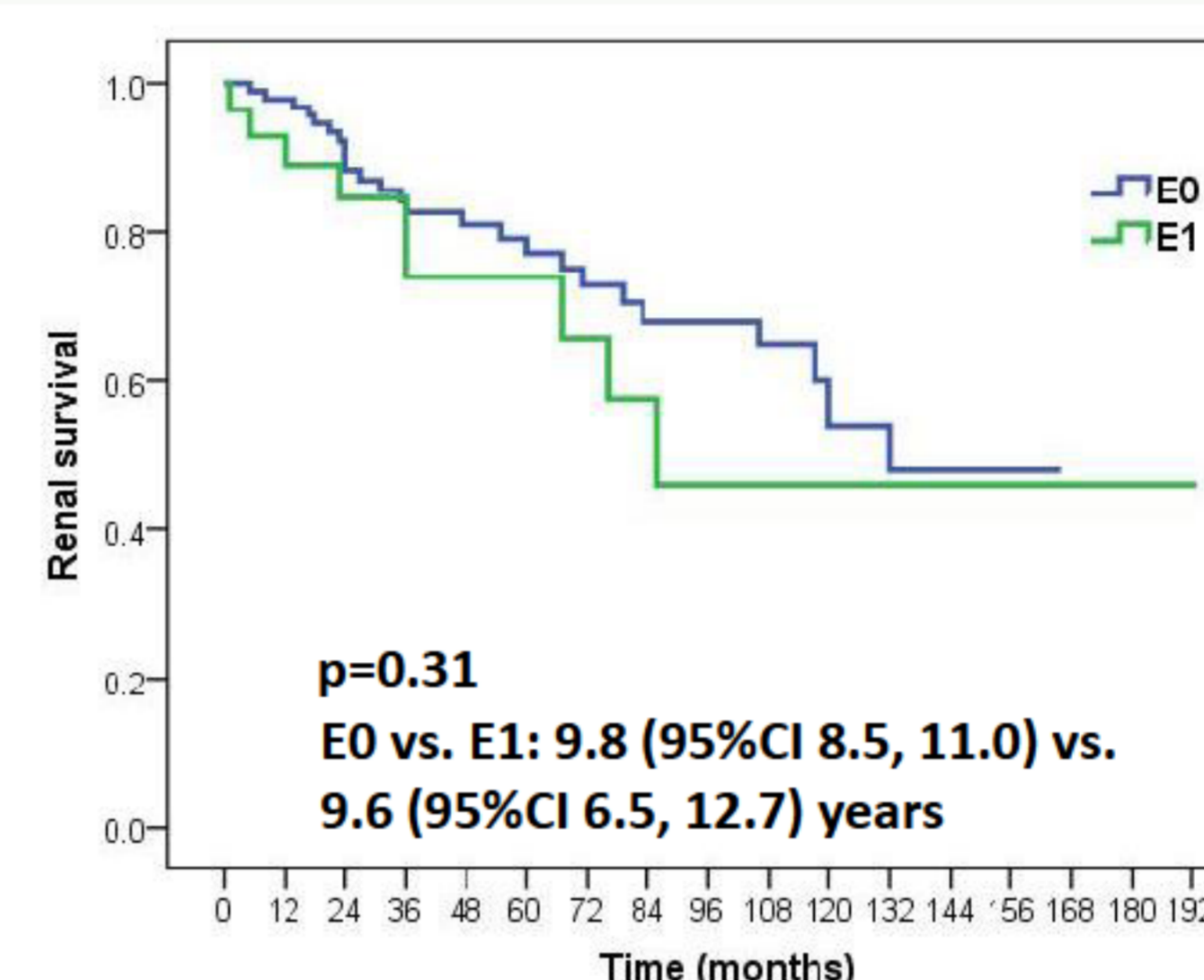
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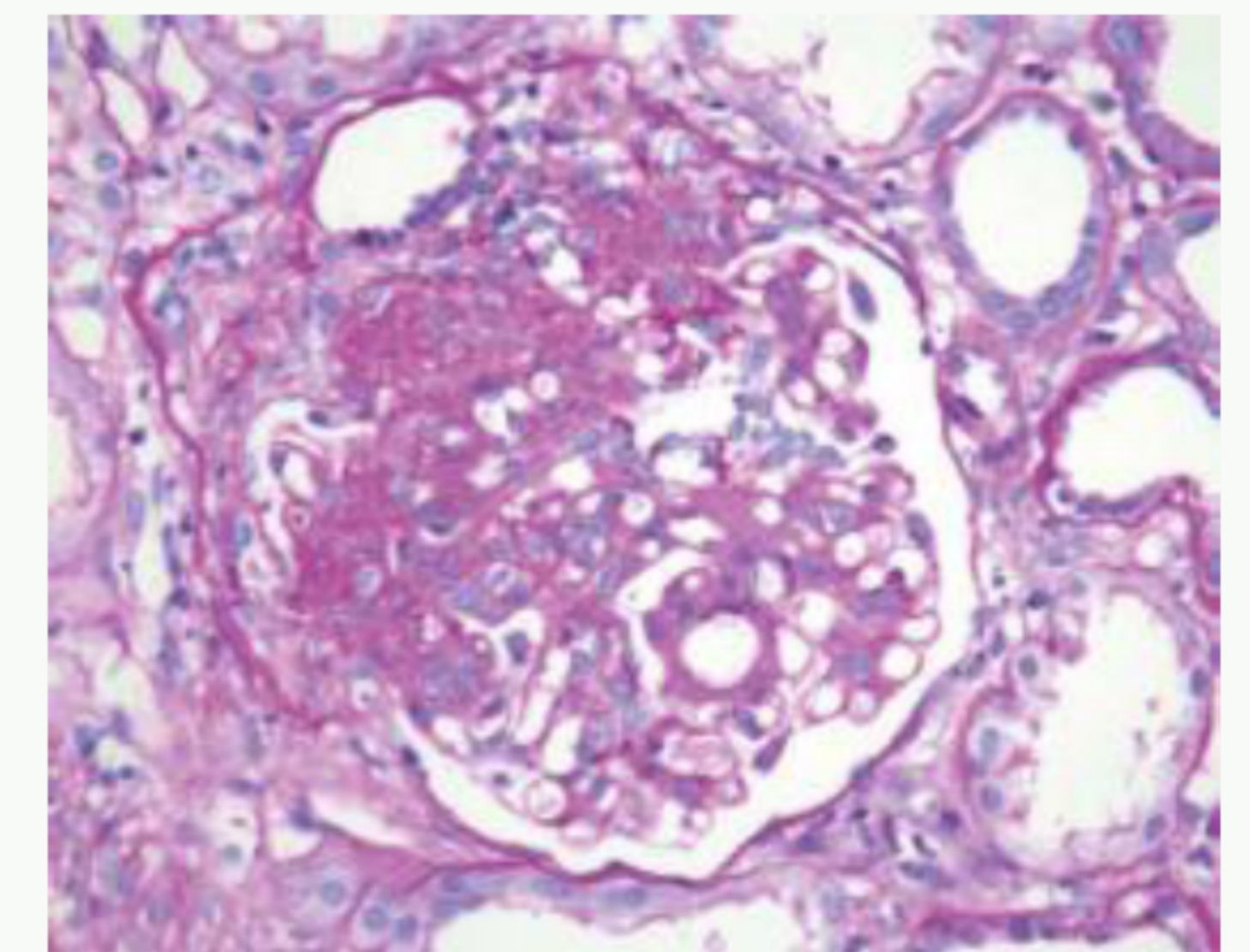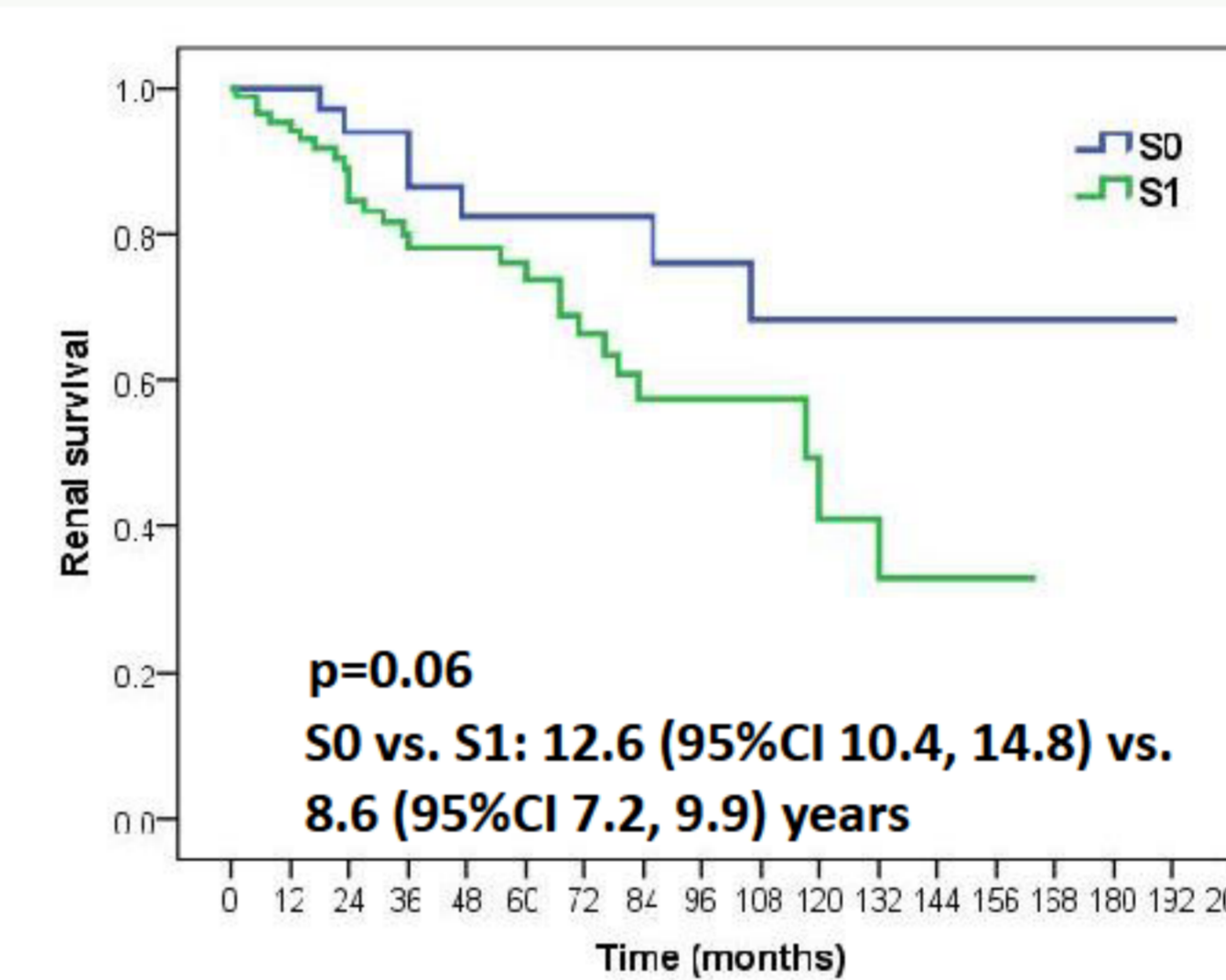
Segmental glomerulosclerosis

Tubular atrophy/interstitial fibrosis

Variables	HR (95% CI)	p
Age (per 1 year of age)	0.97 (0.94, 1.01)	0.18
Male gender vs. Female	1.42 (0.57, 3.52)	0.44
IgG deposition vs. absence	1.25 (0.51, 3.06)	0.62
Hypertension vs. absence	0.49 (0.18, 1.31)	0.15
Proteinuria (per 0.5 g/day)	0.97 (0.86, 1.09)	0.64
eGFR (per 10mL/min)	0.67 (0.53, 0.86)	0.001
Hematuria (per 10 h/mm³)	0.98 (0.94, 1.02)	0.41
M1 vs. M0	1.62 (0.65, 4.03)	0.29
E1 vs. E0	1.01 (0.34, 2.99)	0.98
S1 vs. S0	0.24 (0.06, 0.91)	0.03
T1 vs. T0	0.86 (0.18, 4.08)	0.85
Extracapillary proliferation yes vs no	0.25 (0.09, 0.65)	0.004
Immunossuppresion vs. absence	2.12 (0.85, 5.29)	0.10

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