

# MEST-C SCORE ASSESSED IN IGA NEPHROPATHY AND IN HENOCH SCHOENLEIN PUPURA: IS THERE ANY DIFFERENCE?

**Gorana Nikolić<sup>1</sup>**, Maja Životić<sup>1</sup>, Voin Brković<sup>2</sup>, Marko Baralić<sup>2</sup>, Brankica Spasojević<sup>3</sup>, Gordana Miloševski Lomić<sup>3</sup>, Aleksandar Janković<sup>4</sup>, Sanja Radojević Škodrić<sup>1</sup>

<sup>1</sup>Institute of Pathology, Faculty of Medicine, University of Belgrade, Dr Subotića starijeg 1, 11000 Belgrade, Serbia

<sup>2</sup>Clinic of Nephrology, University Clinical Cenetr of Serbia, 11000 Belgrade, Serbia

<sup>3</sup>University Children's Clinic „Tirsova“, Tiršova 10, 11000 Belgrade, Serbia

<sup>4</sup>Clinical-Hospital Center Zvezdara, Dimitrija Tucovića 161, 11000 Belgrade, Serbia

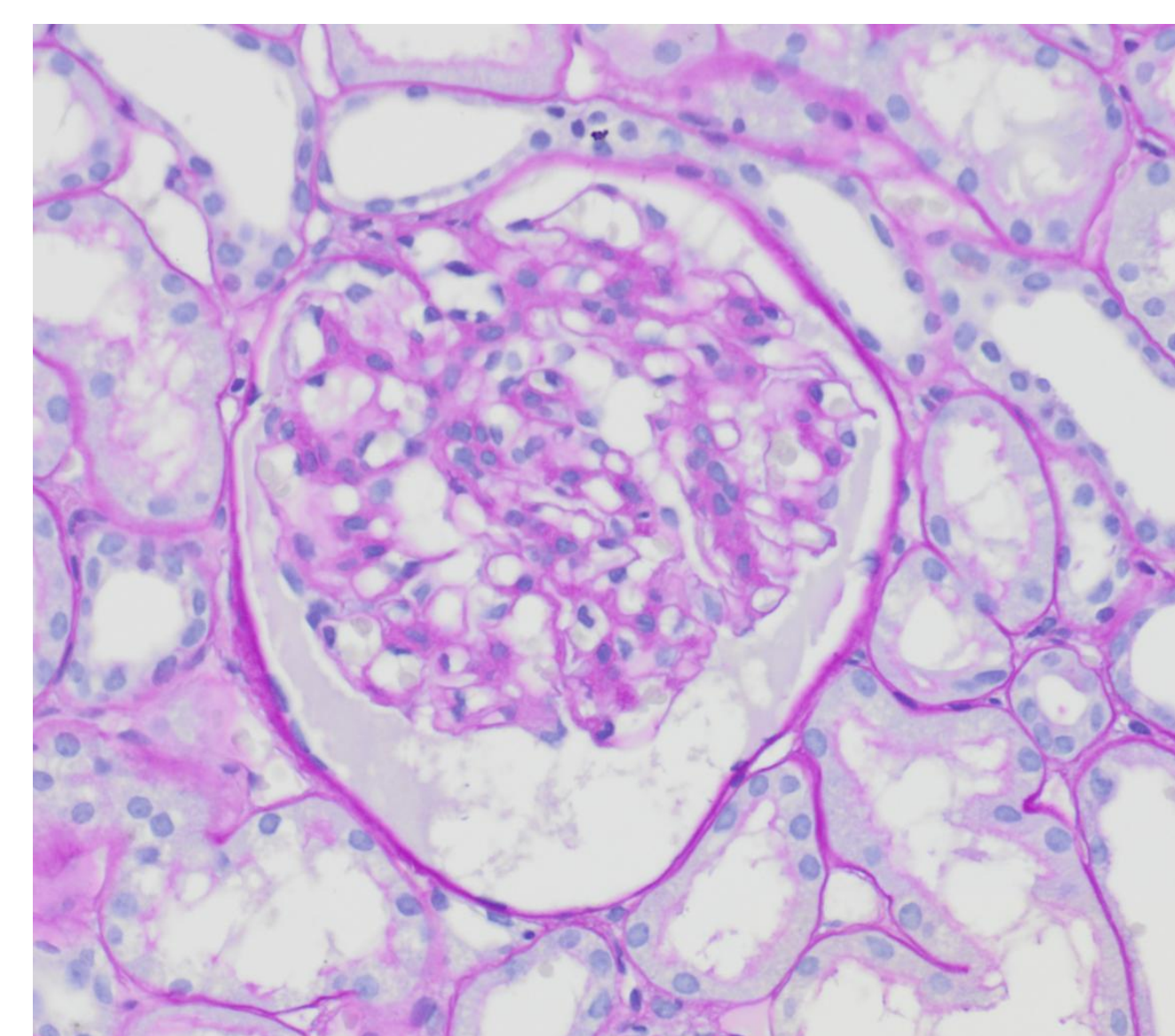
**Aim:** We conducted a retrospective study, in order to assess potential clinical and morphological differences (assessed by MEST-C score), between IgA nephropathy (IgAN) and Henoch Schoenlein purpura (HSP).

**Methods:** The study included patients with IgAN (n=67) and HSP (n=28) diagnosed at the Institute of Pathology, Medical Faculty, Belgrade, Serbia. Clinical patient's data (gender, age, hematuria, proteinuria and disease duration before biopsy) and pathohistological MEST-C score were analyzed and compared between IgAN and HSP.

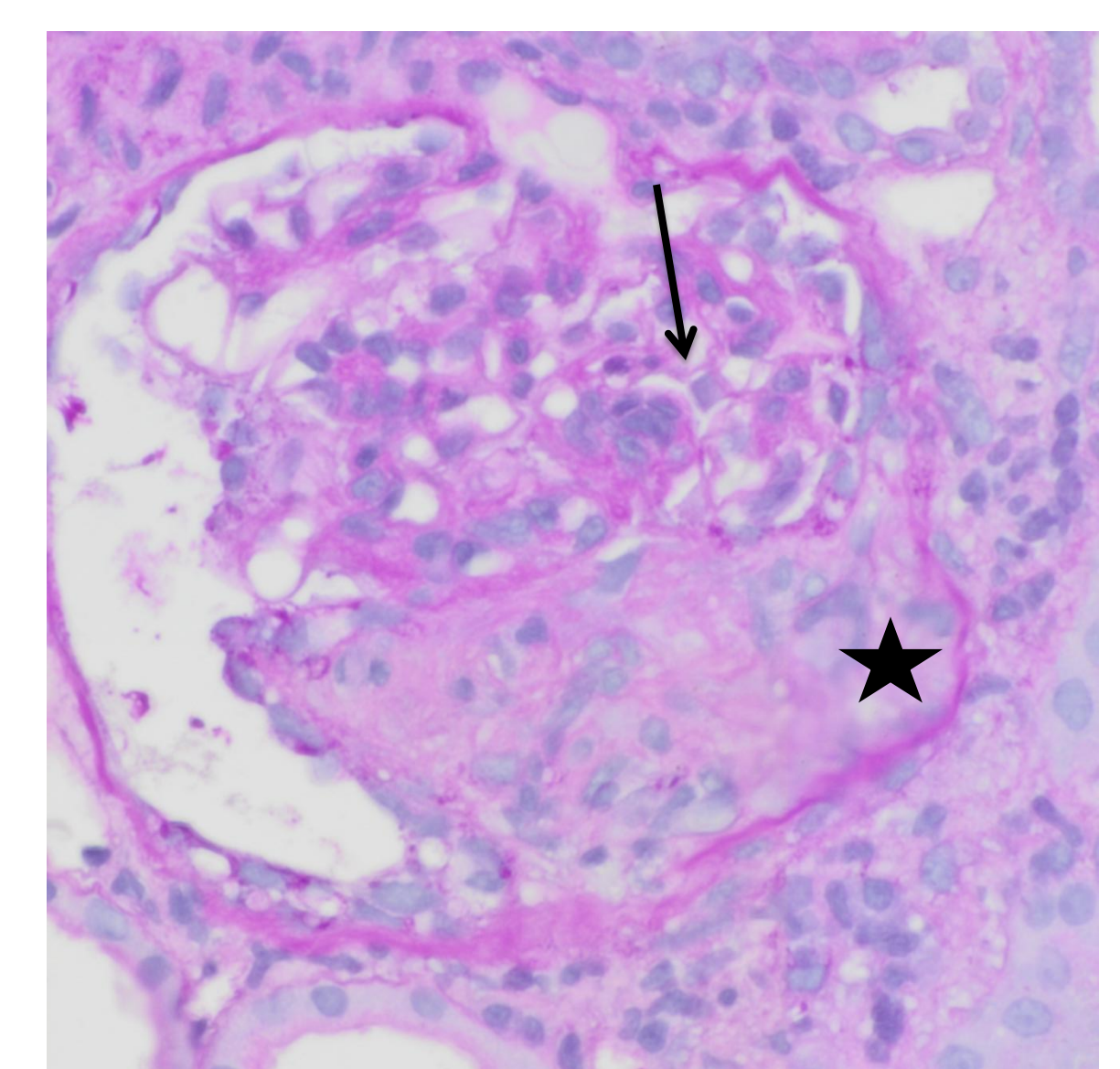
**Results:** Patients diagnosed with IgAN (33±17.9 years) were significantly older than those with HSP (15±10.3 years), p<0,001. The duration of symptoms and the frequencies of haematuria and proteinuria, were similar in both groups. On the other hand, significantly higher serum creatinine values were observed in HSP (356.5±1071.1 µmol/l) compared to IgAN (117.4±73.6 µmol/l). The majority of patients with IgAN had diffuse mesangial hypercellularity, and only 5 patients had less than 50% of glomeruli involved by this lesion in contrarily in HSP where all patients had diffuse glomerular mesangial hypercellularity. Endocapillary hypercellularity is observed in only 6 patients of IgAN, while significantly greater proportion of HSP revealed endocapillary hypercellularity (13/28). Chronic lesions, such as segmental glomerular sclerosis were detected in more than a half of IgAN cases (36/67), while only a quarter of HSP exhibited these changes (7/28). Nevertheless, tubular atropy and interstitial fibrosis were not observed in HSP, while only 13 patients out of 67 with IgAN had this type of lesion chronicity. Crescents formations were detected in only 3 HSP and in 15 IgAN patients.

**Table 1. Clinical and pathohistological characteristics of patients with IgA nephropathy and Henoch-Schoenlein purpura**

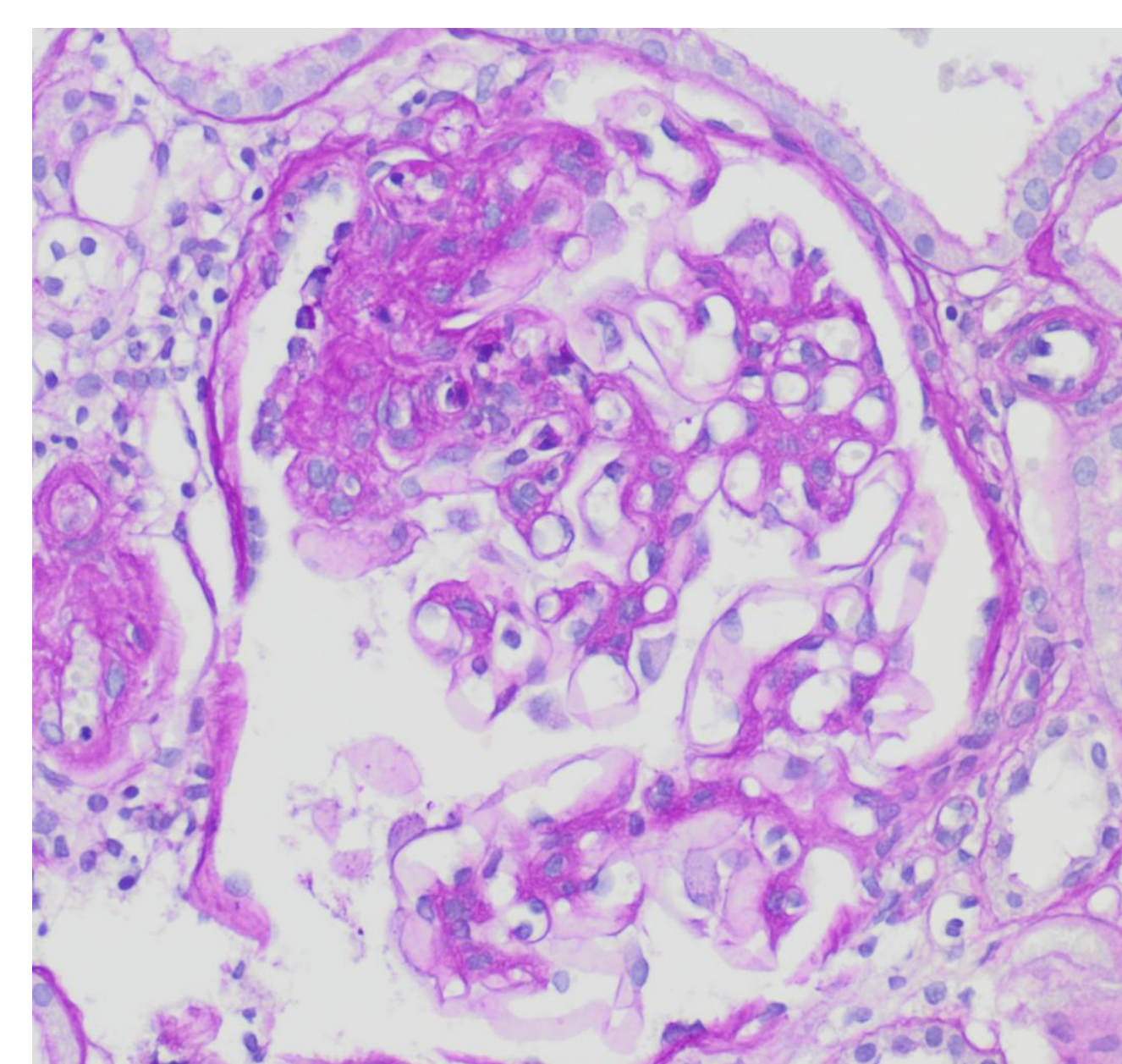
Clinical and pathohistological characteristics		Pathohistological diagnosis		P
		IgA nephropathy	Henoch-Schoenlein purpura	
Gender (%)	Male	45 (76.3%)	14 (23.7%)	p=0.116
	female	22 (61.1%)	14 (38.9%)	
Age (Average age ± SD)		33±17.9	15±10.3	p<0.001
Duration of symptoms		297± 515.36	344±1116.2	p<0.215
Proteinuria (g/24h)	Absent	9 (90.0%)	1 (10.0%)	p=0.987
	Subnephrotic proteinuria	46 (64.8)	25 (35.2%)	
	Nephrotic proteinuria	11 (84.6 %)	2 (15.4%)	
Hematuria	Absent	12 (75.0%)	4 (25.0%)	p=0.646
	Present	54 (69.2%)	24 (30.8%)	
Urea (mmol/l)		6.82±2.85	5.9±2.7	p=0.875
Creatinin (umol/l)		117.37±73.6	356.46±1071.1	p<0.001
Mesangial hypercellularity	<50%	5 (100.0%)	0 (0.0%)	p=0.140
	>50%	62 (68.9%)	28 (31.1%)	
Endocapillary hypercellularity	Absent	58(79.5%)	15(20.5%)	p=0.001
	Present	9(40.9%)	13(59.1%)	
Segmental sclerosis	Absent	31(59.6%)	21(40.4%)	p=0.010
	Present	36(83.7%)	7(16.3%)	
Tubular atrophy and interstitial fibrosis	<25%	51 (64.6%)	28 (35.4%)	p=0.005
	26% - 50%	13 (100%)	0 (0.0%)	
Crescent formation	Absent	52 (67.5%)	25 (32.5%)	p=0.186
	>1 crescent formation	15 (83.3%)	3 (16.7%)	



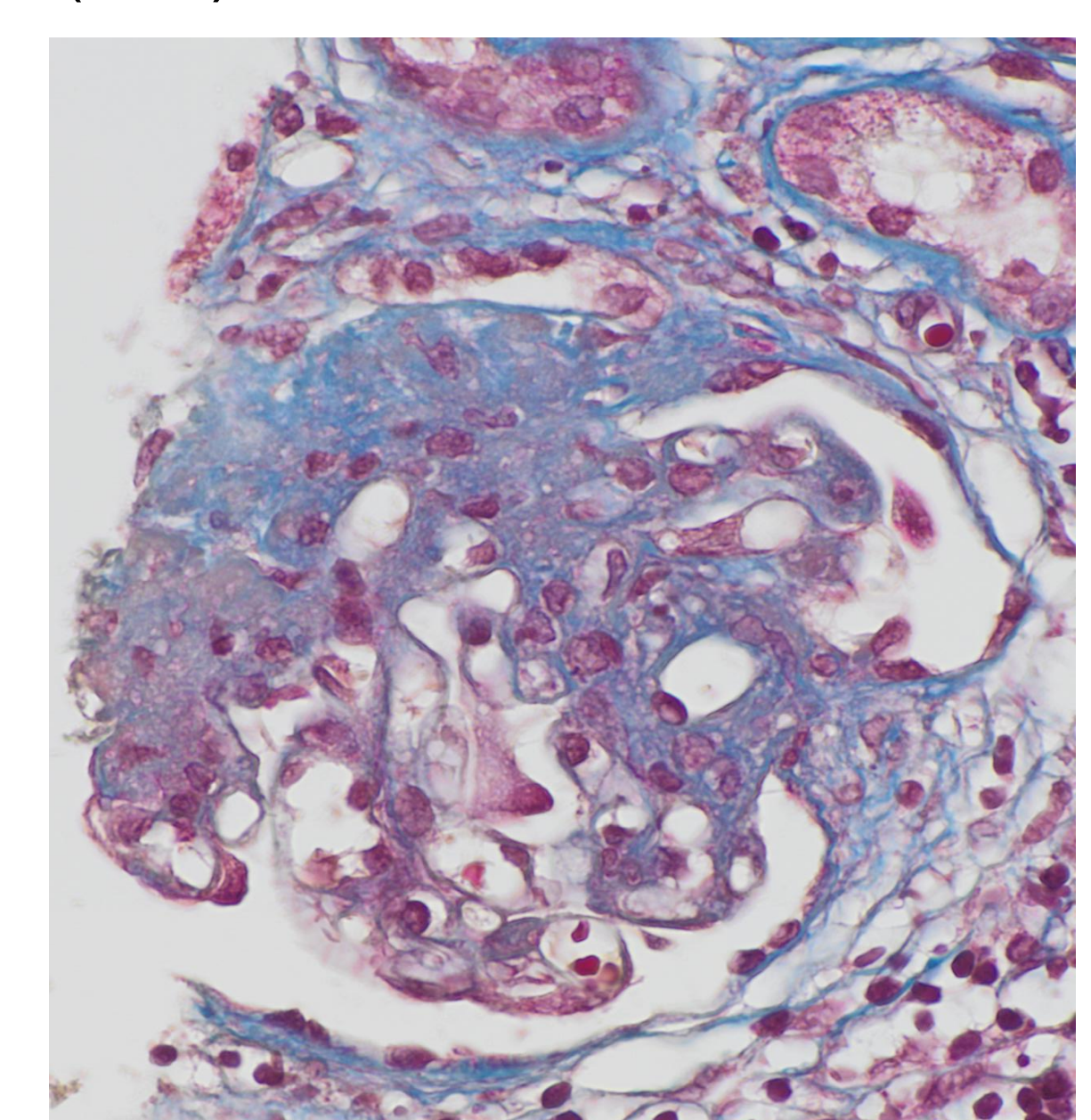
Microscopic image of mesangial hypercellularity, H&E stain



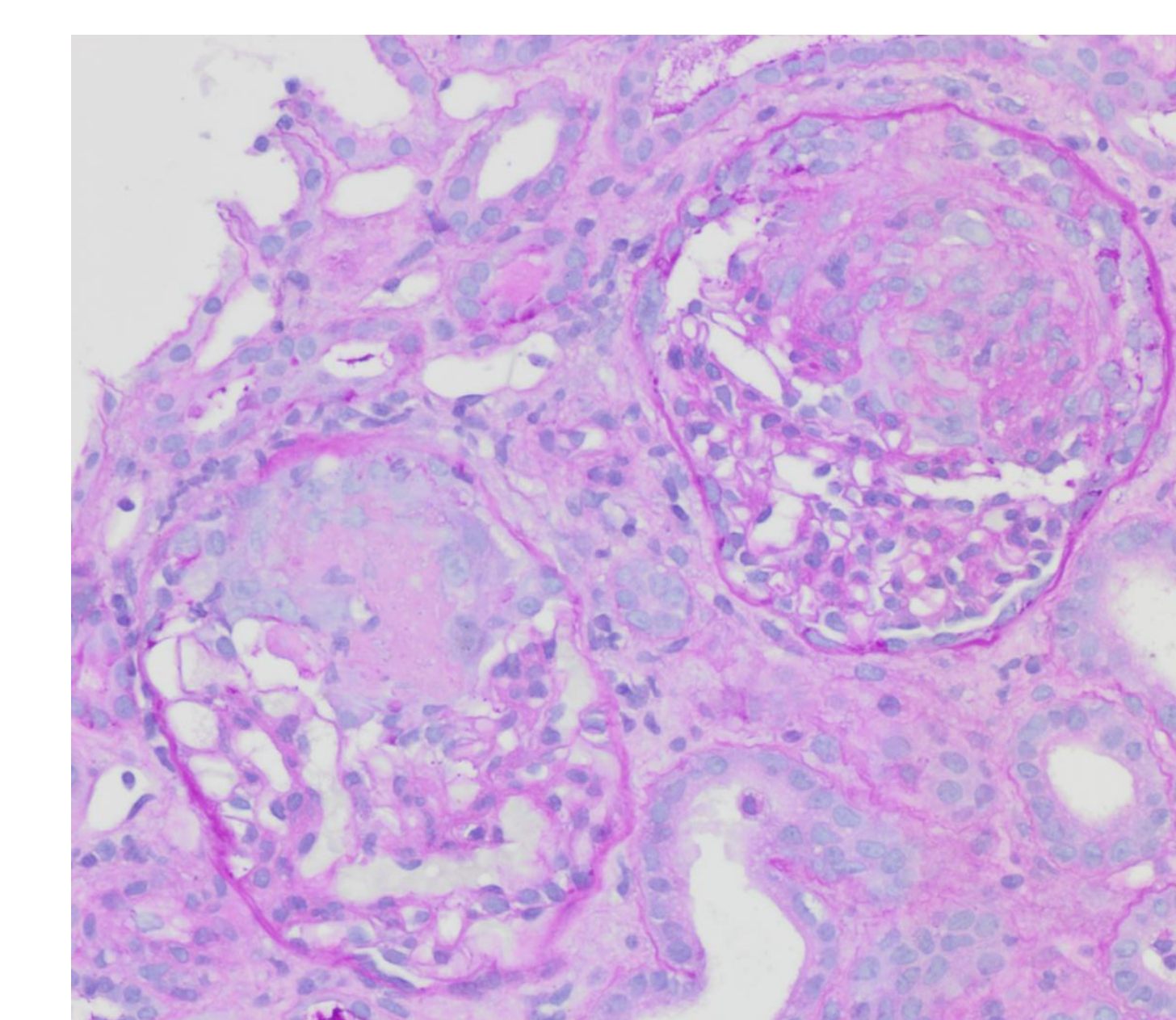
Microscopic image of endocapillary hypercellularity (arrow), and crescent formation (star), H&E stain



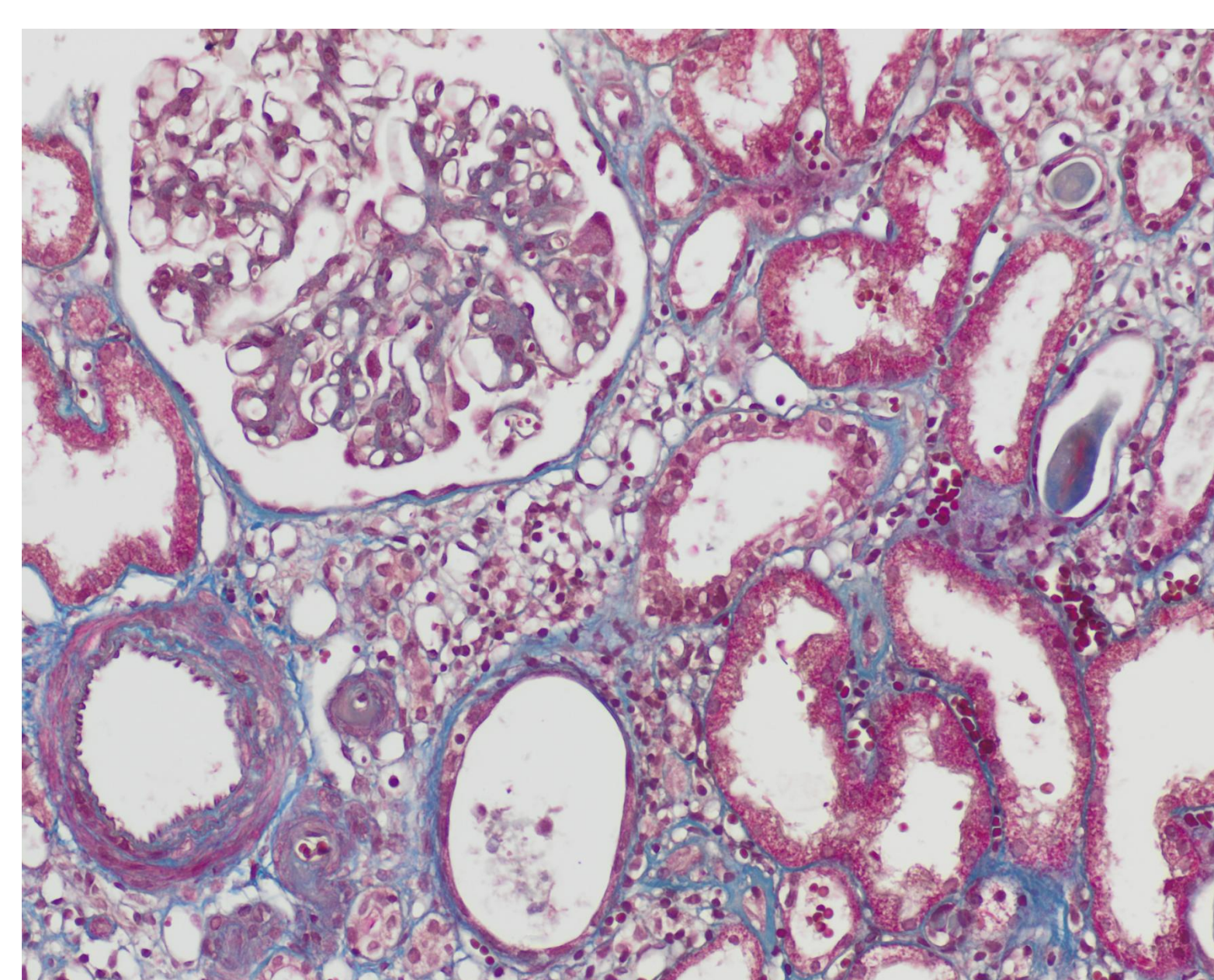
Microscopic image of segmental sclerosis, H&E stain



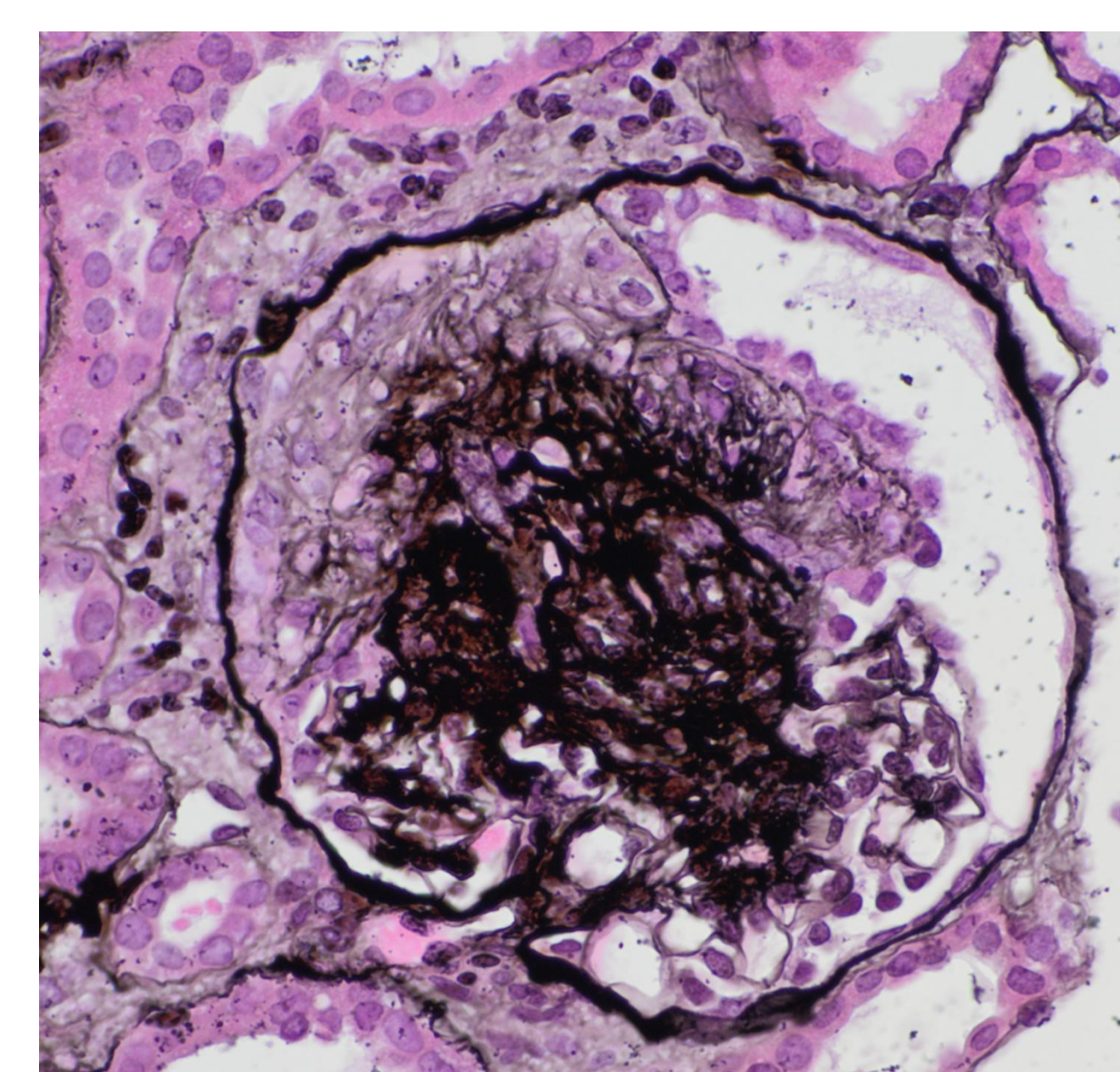
Microscopic image of segmental sclerosis, Masson Trichrome stain



Microscopic image of crescent formation, H&E stain



Microscopic image of hyalinosis of blood vessel, Masson Trichrome stain



Microscopic image of crescent formation, Jones methenamin silver stain

## Conclusion:

Active glomerular lesions are characteristics of HSP, while chronic parameters are significantly observed in IgAN patients who are generally older than HSP group.