

Images in Nephrology
(Section Editor: G. H. Neild)

Renal juxtaglomerular apparatus hyperplasia

Megan L. Troxell^{1,3}, John D. Scandling² and Richard K. Sibley¹

¹Department of Pathology and ²Division of Nephrology, Stanford University Medical Center, Stanford, CA, USA,

³Present address: Department of Pathology, Oregon Health and Science University, Portland, OR, USA

A 33-year-old woman with pulmonary artery hypertension diagnosed 20 months previously, right heart failure, acute on chronic renal failure with creatinine of 4.7, and mild proteinuria, presented for renal biopsy to rule out lupus nephritis. Laboratory data included FANA positive at 1:1280 (homogeneous), positive anti-DNA antibodies at 1:320 and SSA (Ro) antibody positive at 192.

The biopsy demonstrated no evidence of immune complex-mediated disease, but instead revealed changes of chronic ischaemia including diffuse interstitial fibrosis with tubular atrophy. Glomeruli were enlarged, many with ischaemic retraction of the tuft, along with mild mesangial widening and increased mesangial cellularity. The most striking feature was

marked juxtaglomerular apparatus (JGA) hyperplasia throughout the biopsy (Figure 1), in response to chronic systemic hypotension [1,2].

Conflict of interest statement. None declared.

References

1. Venkatachalam MA, Kriz W. Anatomy: juxtaglomerular apparatus. In: Jennette JC, Olson, JL, Schwartz MM, Silva FG, eds. *Heptinstall's Pathology of the Kidney*, 5th edn. Lippincott-Raven, Philadelphia; 1998: 49–52
2. Bohle A, Christensen J, Meyer DS, Laberke HG, Strauch M. Juxtaglomerular apparatus of the human kidney: correlation between structure and function. *Kidney Int Suppl* 1982; 12: S18–S23

Correspondence and offprint requests to: Megan Troxell MD, PhD, OHSU Department of Pathology, L471, 3181 SW Sam Jackson Park Road, Portland, OR 97239-3098, USA.
Email: troxellm@ohsu.edu

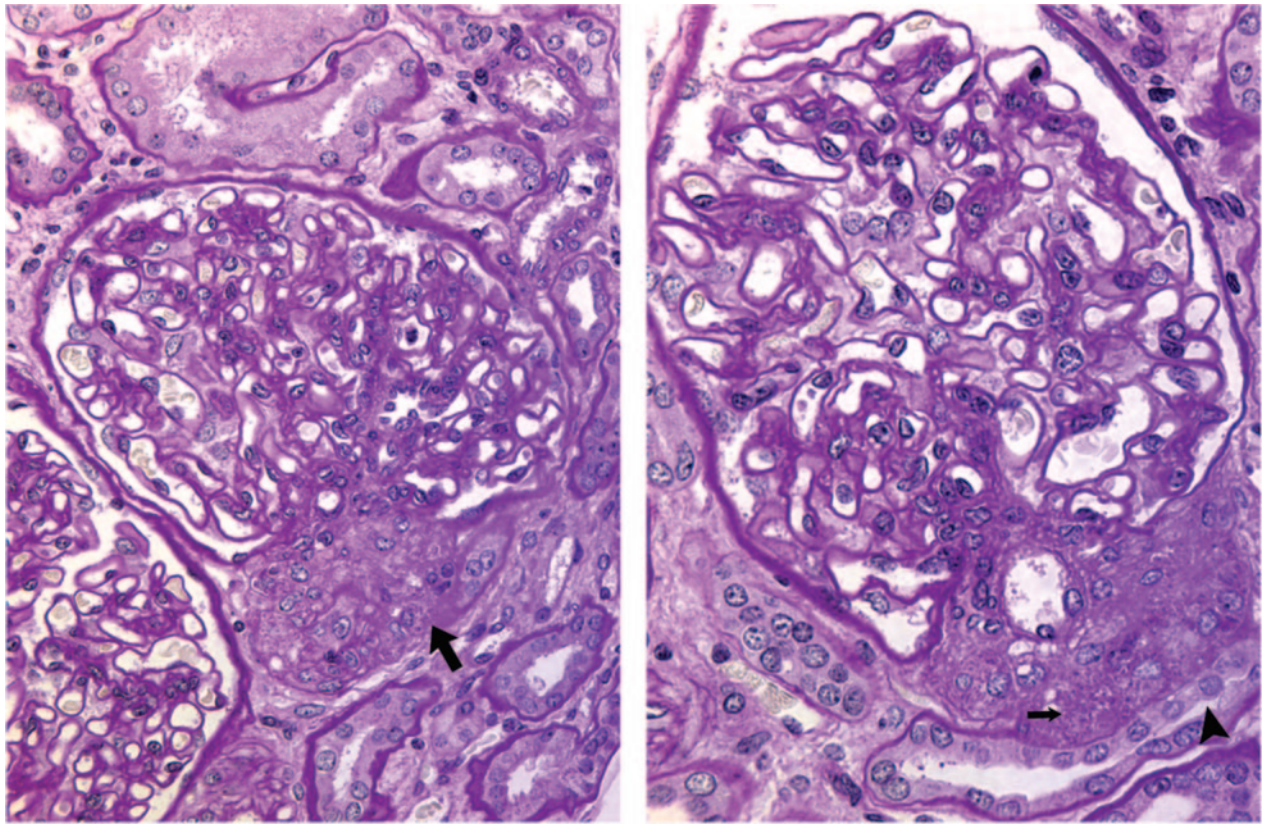


Fig. 1. The patient's biopsy. The large arrow indicates the JGA, the arrowhead shows the macula densa and the small arrow indicates renin granules within the JGA. Original magnification 400 \times left, 600 \times right.