Renal Hyaline Arteriosclerosis in Focal Segmental Glomerulosclerosis

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Dear Sir,

We were very interested to read the recent paper by Lee and Spargo [1] documenting a high incidence of afferent arteriolar hyaline arteriosclerosis (HA) in idiopathic focal segmental glomerulosclerosis (FSGS). Habib and Kleinknecht [2] observed 'subendothelial arteriolar hyalinosis' in a quarter of their cases of FSGS, but most subsequent authors have concentrated on glomerular or clinical aspects of this entity. We too have noted that HA is a very common biopsy finding in patients with idiopathic FSGS, and we would endorse the statement [1] that if focal HA is identified in a renal biopsy from a young adult who appears to have minimal changes and no obvious FSGS, it should stimulate a thorough examination of additional sections for early FSGS. HA may appear to be 'isolated' in the cortex with the adjacent glomerulus outside the plane of section. HA was present in each of our 9 most recent cases of FSGS. In 6 cases where afferent arterioles were present in ultrathin sections, variably sized electron-dense deposits were seen within arteriolar walls beneath the intima. Similar deposits were observed within or internal to Bowman's capsular basement membrane in 4 cases.

These observations support the hypothesis of Lee and Spargo[, originally advanced by Brown et al. [3], that HA and FSGS may be related and have a similar pathogenesis. We suggest that the afferent arteriole, the parahilar

region of the glomerulus and adjacent Bowman's capsule are vulnerable to the same insult that leads to endothelial and epithelial cell damage, loss of basement membrane integrity and deposition of non-immune complex electron-dense deposits. However, HA may be present in renal diseases other than FSGS, and the apparent close relationship between HA and FSGS would be more firmly established if HA were shown to be significantly more common in FSGS than in age-matched non-FSGS cases.

References

Lee, H.S.; Spargo B.H.: Significance of renal hyaline arteriosclerosis in focal segmental glomerulosclerosis. Nephron 41: 86-93 (1985).

Habib, R.; Kleinknecht, C.: The primary nephrotic syndrome of childhood. Classification and clinicopathologic study of 406 cases. Pathol. A. 6:406-474 (1971).