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Incidence of Arteritis and Peritubular Capillaritis in ANCA-associated Vasculitis

ANCA-associated vasculitis (AAV) is a small-vessel vasculitis affecting multiple organ systems, including the kidney. Small vessels in the kidney include small arteries (interlobular artery, afferent and efferent arteriole), capillaries (glomerular and peritubular), and venules. Although crescentic ANCA GN is a common histologic finding reflecting glomerular small-vessel vasculitis, it is reasonable the manifestation of AAV could also contribute to interstitial small-vessel vasculitis. With great interest, we read the recent study by Boudhabhay *et al.*[1] reporting that arteritis represents a subtype of AAV, affecting 13.5% of patients. In addition, implementation of arteritis significantly improved the ANCA renal risk score (ARRS) for the prediction of ESKD.[1,2] These important observations improve our understanding of mechanisms contributing to renal injury in AAV. Besides arteritis, vasculitis manifestation to peritubular capillaries (peritubular capillaritis) has also been reported.[3] In this study, we share our own experience of the incidence of arteritis and peritubular capillaritis in kidney biopsies of confirmed AAV. In kidney biopsies with the presence of both arteries and peritubular capillaries, incidence of arteritis was 11 out of 42 patients (26.2%) and peritubular capillaritis four out of 42 (9.5%), respectively. There was an overlap between interstitial arteritis and peritubular capillaritis in most patients, both detectable in three out of 42 (7.1%). Peritubular capillaritis without arteritis was only present in one out of 42 (2.4%) patients. In summary, in this study we confirm that arteritis reflects the predominant interstitial vasculitis manifestation in a considerable subset of patients with AAV.

For almost two decades, constant effort has been made to stratify ESKD risk in AAV. Histopathological subgrouping into four classes (focal, crescentic, mixed, and sclerotic) as defined by Berden *et al.*[4] was proposed to predict long-term renal survival rates. Unlike Berden's classification, Brix *et al.*[2] suggested the ARRS by incorporation of baseline GFR to the histopathological findings (percentage of normal glomeruli, tubular atrophy/interstitial fibrosis) to predict ESKD in AAV. The recent study by Boudhabhay *et al.* expands our knowledge of renal interstitial lesions in AAV, revealing arteritis as an important factor associated with severe kidney injury in a considerable subset of AAV. Furthermore, the fact that implementation of arteritis significantly improved the ARRS implicates a contribution of arteritis to kidney injury independent of established scoring systems.[2] Although the long-term renal outcome is of relevance, systematic analysis of interstitial vasculitis manifestation with arteritis and peritubular capillaritis in association with glomerular among other tubulointerstitial lesions would also be of great interest.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The study was performed in accordance with Good Clinical Practice and Declaration of Helsinki principles for ethical research. This retrospective study was approved by the ethics committee of the University Medical Center Göttingen, Germany (no. 4/8/19).

DISCLOSURES

All authors have nothing to disclose.

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S. Hakroush and B. Tampe designed the study and wrote the original draft; S. Hakroush was responsible for the histopathological examination; and B. Tampe was responsible for the statistical analysis.

DATA SHARING STATEMENT

The datasets used and/or analyzed during this study are available from the corresponding author on reasonable request.

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