Vasculitis and Glomerulonephritis

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Vasculitis is defined as leukocyte infiltration of vessel walls leading to vascular necrosis and thus causing tissue damage. Based on the size of the involved vessels, vasculitis is classified into vasculitis of large, medium, and small vessel disease. The kidney is commonly involved by medium vessel vasculitis as ischemic and necrotizing arteritis and more frequently by small vessel vasculitis as a crescentic glomerulonephritis. Anti-neutrophilic cytoplasmic antibodies (ANCA) detected by indirect immunofluorescence assay or enzyme-linked immunosorbent assay are frequently found in a variety of vasculitides. Here, we particularly focus on ANCA-associated glomerulonephritis. Two patterns of ANCA, cytoplasmic (c-ANCA) and perinuclear ANCA (p-ANCA) targeting on proteinase-3 and myeloperoxidase, are useful for differential diagnosis of microscopic polyangiitis, Wegener's granulomatosis, Churg-Strauss syndrome and drug-induced ANCA-associated vasculitis. A new ANCA, directed against human lysosome membrane protein-2 (LAMP-2), has been recently discovered as a sensitive and specific marker for renal vasculitis. In this lecture, an update in pathogenesis and treatment of vasculitis-associated glomerulonephritis will be reviewed.