RENAL INVOLVEMENT IN VASCULITIS: AN EVIDENCE-BASED APPROACH

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Vasculitis represents a heterogeneous group of disorders characterized by inflammation of blood vessels, affecting various organ systems, including the kidneys. Renal involvement in vasculitis poses significant diagnostic and therapeutic challenges due to its diverse clinical manifestations and potential for severe morbidity and mortality. This abstract aims to provide an evidence-based overview of renal involvement in vasculitis, emphasizing a comprehensive approach to diagnosis and management. Epidemiological studies have demonstrated that renal involvement occurs in a significant proportion of patients with systemic vasculitis, including granulomatosis with polyangiitis (GPA), microscopic polyangiitis (MPA), and eosinophilicgranulomatosis with polyangiitis (EGPA). The spectrum of renal manifestations ranges from asymptomatic urinary abnormalities to rapidly progressive glomerulonephritis and chronic kidney disease. Diagnosis of renal vasculitis requires a systematic evaluation, including clinical assessment, laboratory investigations, imaging studies, and renal biopsy. Biomarkers such as anti-neutrophil cytoplasmic antibodies (ANCA) and complement levels aid in the diagnosis and classification of ANCA-associated vasculitis. Imaging modalities such as renal ultrasound, computed tomography (CT), and magnetic resonance angiography (MRA) provide valuable information regarding renal vasculature involvement. Renal biopsy remains the gold standard for establishing the diagnosis, determining the histopathological pattern, and guiding treatment decisions. Histological findings typically include necrotizing crescentic glomerulonephritis, pauci-immune glomerulonephritis, or immune-complex-mediated glomerulonephritis, depending on the underlying vasculitic process. Management strategies for renal vasculitis involve a multidisciplinary approach, incorporating immuno-suppressive therapy, supportive care, and treatment of comorbidities. Induction therapy often consists of high-dose glucocorticoids combined with immuno-suppressive agents such as cyclophosphamide or rituximab, tailored to the specific vasculitic subtype and disease severity. Maintenance therapy aims to achieve disease remission while minimizing treatment-related toxicity. Recent advances in targeted therapies, including novel biologics and small molecule inhibitors, offer promising alternatives for refractory or relapsing disease. However, optimizing treatment regimens requires careful consideration of efficacy, safety, and individual patient factors. In conclusion, renal involvement in vasculitis represents a complex interplay between immunological dysregulation, vascular inflammation, and end-organ damage. An evidence-based approach encompassing early recognition, accurate diagnosis, and tailored therapy is essential to improve outcomes and mitigate long-term renal complications in affected individuals.

Keywords: Renal Involvement in Vasculitis, Renal Involvement, Vasculitis

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