

Abstract Submission No.: A-1324**The association between complement in the system or kidney and complement gene polymorphisms with severity and clinical outcomes in ANCA-associated vasculitis: a scoping review**

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Objectives : Complement activation is involved in ANCA-associated vasculitis (AAV), but the impact of systemic and kidney markers of complement activation and complement gene polymorphisms on patient and kidney prognosis is not well-established. We performed a scoping review to evaluate the associations between complement in the systemic circulation and the kidney and complement gene polymorphisms is associated with AAV clinical severity and outcomes.

Methods : We performed a literature search using the Pubmed/ MEDLINE database for publications between January 2019 and January 2024 using pre-defined search criteria (PROSPERO registration CRD42023489422). Three researchers independently screened the articles' titles and abstracts. Studies were included if they were human studies in AAV (including microscopic polyangiitis (MPA), granulomatous polyangiitis (GPA), and eosinophilic granulomatosis with polyangiitis (EGPA)) and evaluated markers of complement activation such as complement levels in systemic circulation and complement deposition in kidney biopsy, and complement gene polymorphisms. Studies were excluded if they were non-human studies, did not include AAV and/or complement, or if they were reviews, case reports, case series of fewer than 5 patients.

Results : From a total of 223 articles screened, 20 articles fulfilled the inclusion criteria. 13 studies defined AAV based on 2012 Revised International Chapel Hill Consensus Conference Nomenclature of Vasculitides, or American College of Rheumatology 1990/2021 criteria; and 4 studies by histological diagnosis on kidney biopsy. 17 studies evaluated levels of C3, C4, and/or C5 (including C5a, C5b-9) in the systemic circulation, 6 studies evaluated complement deposition on kidney biopsy (C3, C4, C5, or C1q), and 1 study had data on complement gene polymorphisms. The outcomes in the identified studies included kidney survival, clinical remission, clinical relapse, overall survival, change in serum creatinine or estimated glomerular filtration rate.

Conclusions : Markers of complement activation may be associated with severity and clinical outcomes for patients with AAV.