# The role of complement in the amyloidoses-a new therapeutic avenue?

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Complement is known to co-precipitate and be activated **by** amyloid deposits in both peripheral and central nervous system amyloidoses and most probably contributes **to** the pathological cascades in amyloid diseases. Complement has been called a double edged flower in Alzheimer Disease because of at least two opposing actions. C1q, the initiator of the classical pathway activation, can opsonize foreign material, including amyloid fibrils, and enhance their destruction by phagocytes thus protecting the recipient tissue bed. On the other hand complement activation, when completed, creates the membrane attack complex (C5b9) which is cytotoxic and detrimental to the resident tissue bed. Component C5a, produced by complement activation, drives inflammation in nerve tissue, exacerbates amyloidogenesis and also drive neuro-inflammation, all of which are detrimental. We present additional evidence that complement plays a crucial role in both central and peripheral amyloidosis based on experiments with two transgenic mouse models of amyloidosis (Transthyretin peripheral neuropathy and Alzheimer Disease) and also demonstrate that by manipulating complement amyloid deposits may be ameliorated thus opening up another therapeutic avenue for treating these diseases.