Alzheimer’s disease (AD) is multifactorial and complex, and it is very unlikely that one central mechanism is responsible for its pathogenesis. Vascular abnormalities are often present in AD, and patients with both AD and brain vascular pathology are considered to have “mixed dementia”. Given the prevalence of these overlapping pathologies, a fundamental question arises: Does the co-existence of AD and vascular pathology represent independent co-morbidities, or does the AD-related peptide Aβ interact with components of the vascular system to induce and/or accelerate vascular abnormalities and dementia? My talk will explore the effects Aβ can have on blood coagulation and brain inflammation systems, and the implications of these effects for the pathogenesis, diagnosis and treatment of AD.