Are MS therapies safe and effective in the elderly?

O. Stuve
Department of Neurology and Neurotherapeutics, University of Texas Southwestern Medical Center, USA
Neurology Section, VA North Texas Health Care System, Medical Service, USA
Department of Neurology, Klinikum rechts der Isar, Technische Universität München, Germany

A first-time diagnosis of MS is relatively uncommon during childhood and after age 50. Consequently, MS is widely considered a disease of young adults, and the diagnosis is most commonly established during the second or third decade of life between the age of 18 and 45. In this regard, MS is very similar to other autoimmune diseases, including systemic lupus erythematosus, rheumatoid arthritis, and Sjögren's syndrome. The mechanisms that confer relative disease resistance during childhood, early adolescence, and senescence are unknown. Clinically and pathologically, early inflammatory MS appears to be different from degenerative MS. In new, active lesions there is evidence of macrophage and lymphocyte infiltration, as well as endothelial activation. In contrast, old chronic-inactive plaques are often glial scars with decreased numbers of axons. Often, very few inflammatory cells can be detected. A recent histopathological study in elderly patients (median 76 years) with longstanding disease (median 372 months) found that inflammatory infiltrates declined to levels similar to those found in age-matched controls and the extent of axonal injury, too, was comparable with that in age-matched controls. Given that CNS inflammation and adaptive immune responses are diminished in elderly MS patients, it is not surprising that the efficacy of immunomodulatory or immunosuppressive agents can typically only be demonstrated in young or middle-aged recipients. In addition, due to the fact that adaptive immune responses in the elderly are altered and diminished, these agents may put elderly MS patients at greater risk for infectious and neoplastic complications.