ALZHEIMER'S DISEASE IN DOWN'S SYNDROME: CLINICOPATHOLOGIC STUDIES

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Clinical and neuropathologic evidence points to the development of Alzheimer's disease (AD) in seven Down's syndrome patients above age 40. Dementia was observed in these patients over periods of 2.5 to 9.2 years. The first clinical sign of AD, visual memory loss, was succeeded by impaired learning capacity and decreased occupational and social functioning, and culminated in seizures and urinary incontinence. The morphometric observations of the brains of these seven patients with AD showed that the numbers of plaques and tangles exceeded 20 per 1.5×10^6 microns² area, in both the prefrontal and hippocampal cortices. Plaques and tangles were also evident in the basal ganglia, thalamus, hypothalamus, and midbrain. In addition, we found that four of the seven brains showed small strokes, and five of the seven amyloid angiopathy. This study also indicates that by longitudinal neuropsychological evaluations and lab tests, which exclude other causes of dementia, the diagnosis of AD can be made even in severely and profoundly retarded patients.

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Comment from Jonathan W. Mink, MD, PhD, FAAN, Associate Editor: *The authors described the development of clinical manifestations of Alzheimer disease (AD) in individuals with Down syndrome and the association of these clinical signs and symptoms with neuropathologic changes at autopsy that are characteristic of AD. The association between Down syndrome and AD has been substantiated in many subsequent studies.*

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