

# Increased susceptibility to oxidative death of lymphocytes from Alzheimer patients correlates with dementia severity

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© 2014 Bentham Science Publishers. We previously reported on enhanced susceptibility to death of lymphocytes from Alzheimer's disease (AD) patients when exposed to hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>)-induced oxidative stress and an increased resistance to death in those of patients with a history of skin cancer. This is consistent with our hypothesis proposing that the cellular machinery controlling cell death is deregulated in opposite directions in Alzheimer's disease (AD) and cancer, to explain the inverse association observed in epidemiological studies. Here we investigated whether the observed increased susceptibility correlates with the degree of dementia severity. Peripheral lymphocytes from 23 AD patients, classified using the Clinical Dementia Rating (CDR) into severe dementia (CDR 3, n=10) and mild-to-moderate dementia (CDR 1-2, n=13), and 15 healthy controls (HC) (CDR 0), were exposed to H<sub>2</sub>O<sub>2</sub> for 20 hours. Lymphocyte death was determined by flow cytometry and propidium iodide staining.