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Characterization of the cynomolgus monkey as a spontaneous model for studies of senile dementia

Huda Shalahudin Darusman¹, D Sajuthi², O Kalliokoski¹, S J Schapiro^{1,3}, A Gjedde^{1,4,5} and Jann Hau¹

¹University of Copenhagen, Denmark

²Bogor Agricultural University (IPB), Indonesia

³MD Anderson Cancer Center, USA

⁴Johns Hopkins University, USA

⁵McGill University, Canada

The cynomolgus monkey (*Macaca fascicularis*) has shown promise as a spontaneous model of age-related dementias, such as Alzheimer's disease. Using a series of memory tests, we have found evidence that performance on delayed response tasks was age-related, with poorer performance being demonstrated by old monkeys (>20 years of age), compared to young (4-9 years of age) and middle-aged (10-16 years of age) individuals. Performance on the memory tasks was correlated with levels of the core biomarkers indicative of Alzheimer's disease in the circulation; in particular with amyloid-beta 1-42 ($A\beta_{42}$). Structural magnetic resonance imaging (MRI) studies identified abnormalities, such as atrophy in the hippocampus and relevant cortical areas, in aged monkeys that were correlated with poor memory and low $A\beta_{42}$ levels in the circulation. Our latest immunohistochemistry study showed that hallmarks of Alzheimer's disease (senile plaques of amyloid beta and nerve tangles) presence in the brains of aged monkeys that exhibited memory performance deficits, low circulating $A\beta_{42}$ and atrophy of relevant brain areas as determined by MRI.

Biography

Huda Shalahudin Darusman is currently pursuing his PhD degree in the Department of Experimental Medicine, Faculty of Health and Medical Science, University of Copenhagen and University Hospitals, Copenhagen, Denmark. He is an official of the Ministry of Education, Republic of Indonesia positioned as lecture in the Faculty of Veterinary Medicine, IPB, Bogor and researcher at the biomedicine division of the Primate Research Center, IPB Bogor. With Prof Jann Hau as his main PhD supervisor, he has published three papers in relation to the characterization of the cynomolgus monkey as model of senile dementia studies.