



The NO-Age and NO-AD Seminar Series 001

'Synaptic changes in Alzheimer's disease and other dementias'

by

Prof. Paul Francis

King's College London and University of Exeter, UK

at

14:30-15:30, Thursday 12th December 2019

Room S102.014

Akershus University Hospital



Organizer:

Evandro F. Fang, Jon Storm-Mathisen

Queries: e.f.fang@medisin.uio.no



Speaker: Professor Paul Francis

Title: Synaptic changes in Alzheimer's disease and other dementias

Abstract:

Alzheimer's disease (AD) affects over 500,000 people in the UK and the annual cost of care is estimated at £11 billion. The disease is characterized by regionally selective gross cerebral atrophy, senile plaques, neurofibrillary tangles together with selective neuron and synapse loss. The principal neuronal types affected used glutamate or acetylcholine as transmitter. These changes produce a characteristic clinical syndrome of progressive cognitive dysfunction and behavioral abnormalities with declining activities of daily living. Current treatments are based reducing the breakdown of acetylcholine in the synaptic cleft and they provide symptomatic benefit for a majority of patients.

The research focus of the group is on the relationship between neurochemical changes in the brains of patients with AD and their particular symptoms. Thus we have shown that, in addition to the well-known relationship between acetylcholine and cognitive decline, there is a relationship between this system and non-cognitive, behavioral changes seen in patients with AD. This then provides a scientific rationale for the clinical improvement in this domain following treatment with acetylcholinesterase inhibitors (AChEI). In this invited talk, a review on how our understanding of such changes has evolved and the opportunities that arise for improving treatment will be evaluated.

Biography:

Professor Paul Francis is investigating the relationship between neurochemical changes in the brains of patients with AD and their association with particular symptoms. He has obtained his PhD from the University of Reading in 1982 and went on to Postdoctoral training in the Institute of Neurology. In 1995 he became a Senior Lecturer in Biochemistry and obtained full Professorship in Neurochemistry in King's College London in 2008. He was the co-founding scientist and Chair of the board of CereStem Ltd, a stem cell-based KCL spin-out company; and he has also been a Director of Brains for Dementia Research, a £6M initiative by Alzheimer's Research UK and Alzheimer's society. He currently is also an Associate Dean of Research in the College of Medicine and Health, University of Exeter.

Name: Professor Paul Francis
Institute: King's College London and
University of Exeter, UK
Email: paul.francis@kcl.ac.uk