Annals of General Psychiatry



Oral presentation



# Vascular brain aging

Constantin Bouras*

Address: Service of Neuropsychiatry, Department of Psychiatry, University of Geneva, Switzerland
* Corresponding author

*from* International Society on Brain and Behaviour: 2nd International Congress on Brain and Behaviour
Thessaloniki, Greece. 17–20 November 2005

Published: 28 February 2006

*Annals of General Psychiatry* 2006, **5**(Suppl 1):S12 doi:10.1186/1744-859X-5-S1-S12

The cerebral cortex is a highly vascularized part of the central nervous system presenting however some regional particularities. In the hippocampus itself the capillary density is different between layers and also between fields: the most rich vascular network is seen in the CA2-3 field, in the molecular layer, followed by the stratum oriens. The capillary density does not correlate with neuron numbers in these areas. Alterations in the cerebral microvasculature have been described in normal brain aging and neurodegenerative disorders such as Alzheimer's disease (AD). Several pathological microvascular changes as decreased capillary density, increased tortuosity, collapsed capillaries, looping, stringing occur during normal brain aging but they are more prevalent in AD patients. The pathogenesis of these alterations remains highly controversed. Moreover, vascular lesions such as multiple cortical scars, hippocampal sclerosis in the highly sensitive CA1 field and amyloid angiopathy, with possible ischemic consequences, are also frequent in the aging population. This presentation will describe in details the angioarchitecture of the hippocampus, and discuss the main microvascular alterations observed in brain aging and dementia including the impact of these pathological changes in cognition.