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“A Search for The Molecular Causes of Vascular Cognitive Impairment and Dementia”

50 million people worldwide are now suffering from dementia, with Alzheimer’s disease (AD) as the most common form in the elderly. However, the exact causes of AD and other forms of dementia remain elusive. Vascular Cognitive Impairment and Dementia (VCID) due to cerebrovascular diseases and pathologies represents 20~40% of the dementia cases, and largely overlaps with AD in terms of pathologies and pathogenic factors. Recently, we have been working with two groups of genetic risk factors and key molecules that are vascular residents but can either predispose individual to cerebrovascular diseases, or strongly modify the course of AD and VCID, such as platelet-derived growth factor receptor beta (PDGFRβ) in brain pericytes, Low density lipoprotein receptor-related protein 1 (LRP1) and Phosphatidylinositol binding clathrin assembly protein (PICALM) in the endothelia. Although this is just the first peek through the looking glass, yet our findings have brought new insight into the molecular basis of VCID and AD, suggesting that a better understanding the etiology and pathogenesis of AD and VICD, especially decoding the common genetic and molecular causes may help us redefine a subset of cases and land more effective therapeutics for them in the near future.

Wednesday  
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Herklotz Seminar Room/ ZNI 112  
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