

P02-159 - **MAGNETIC RESONANCE IMAGING OF BASELINE BRAIN PERFUSION IN MAJOR DEPRESSIVE DISORDER**

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Introduction: Continuous arterial spin labelling (cASL) is a non-invasive magnetic resonance imaging method increasingly used to study human brain function and perfusion physiology.

Objectives: In this study, we investigated distinct patterns of cerebral blood flow (CBF) in MDD patients by means of resting state cASL.

Methods: 11 healthy controls and 11 patients with MDD according to DSM-IV criteria were included. The individual cASL images underwent data preprocessing steps including the generation of perfusion-weighted images, followed by conversion to quantified CBF. An analysis of temporally coherent CBF patterns was performed using a spatial Independent Component Analysis.

Results: Both groups showed distinct blood flow patterns in a medial frontoparietal and lateral temporal component („default mode“ network), a medial temporal and anterior cingulate component („limbic“ network) and bilateral prefrontal and parietal component („cognitive“ network). Within the “limbic” network, MDD patients showed a pattern of increased CBF in the bilateral ventrolateral prefrontal, cingulate, striatal and hippocampal regions. Within the “cognitive” network, MDD patients showed a pattern of increased CBF in left dorsolateral prefrontal and the inferior parietal areas. Decreased perfusion in MDD patients was found in the right precuneus, the right inferior parietal cortex, the left posterior cingulate and the left lateral temporal cortex.

Conclusions: These preliminary data demonstrate the sensitivity of cASL techniques for detecting resting state CBF changes in MDD patients. Thus, cASL studies in MDD could provide valuable information with regard to neurobiologically characterized endophenotypes, while resting state CBF measures could serve as objective predictors of treatment response in future studies.