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RESTING BRAIN PERFUSION IN ALCOHOL-INDUCED PSYCHOTIC DISORDER: A COMPARISON IN PATIENTS WITH ALCOHOL DEPENDENCE, SCHIZOPHRENIA AND HEALTHY CONTROLS

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Introduction: Alcohol-induced psychotic disorder (AIPD), is an uncommon complication of alcohol abuse. AIPD needs to be distinguished from alcohol withdrawal delirium and schizophrenia and the underlying pathophysiology is poorly understood. Few brain-imaging studies in AIPD have been reported to date. Case reports of brain-imaging in AIPD suggest possible dysfunction in the thalamus, basal ganglia, frontal lobes and cerebellum. The aim of this study was to compare resting brain perfusion (rCBF) in patients with AIPD, uncomplicated alcohol dependence, schizophrenia and healthy volunteers.

Methods: Single photon emission computed tomography (SPECT) was utilized to compare rCBF in patients with AIPD (n=19), schizophrenia (n=16), uncomplicated alcohol dependence (n=20) and healthy volunteers (n=19).

Results: Increased rCBF was demonstrated in the right calcarine area in patients with AIPD compared to healthy volunteers, with a trend towards increased rCBF to the frontal and temporal lobes and the right pallidum. Decreased left sided rCBF to the putamen, parietal, mid-frontal and mid-temporal lobes and heterogenous flow to the cerebellum were demonstrated in patients with AIPD when compared to patients with uncomplicated alcohol dependence. The left posterior cingulate and right cerebellum showed higher and lower rCBF respectively in patients with AIPD compared to patients with schizophrenia.

Conclusion: The findings implicate the right occipital lobe and possibly the cerebellum in the pathogenesis of AIPD. Some findings have similarities with rCBF reports in alcohol-withdrawal. Reduced rCBF to the frontal lobes, thalamus and basal ganglia in AIPD as suggested in previous case reports could not be confirmed.

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