

Poster presentation

## MRI findings in bipolar I patients: preliminary data

Konstantinos Fountoulakis\*<sup>1</sup>, Panagiotis Panagiotidis<sup>1</sup>, Melina Siamouli<sup>1</sup>,  
Vasilios Kimiskidis<sup>2</sup>, Apostolos Iacovides<sup>1</sup> and George Kaprinis<sup>1</sup>

Address: <sup>1</sup>3rd Department of Psychiatry, Aristotle University of Thessaloniki Greece and <sup>2</sup>3rd Department of Neurology, Aristotle University of Thessaloniki Greece

\* 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):S328 doi:10.1186/1744-859X-5-S1-S328

### Background

Increased rates of white matter hyperintense lesions and temporal cortical atrophy have been reported in bipolar patients. However, the potential effects of age, vascular risk factors and illness severity on reported findings are not fully established. The current preliminary paper reports the MRI findings from 11 bipolar I patients and its possible relationship with vascular risk factors.

### Materials and methods

11 bipolar I patients (5 males and 6 females) diagnosed according to DSM-IV criteria took part in the study. Their age was  $53 \pm 13.06$  years (range 35–78). The diagnosis was achieved with the SCAN v.2.0. Apart from a full clinical and laboratory examination, they were especially investigated for the presence of diabetes mellitus (DM) and hypertension (HT). All underwent brain MRI. Their MRI was qualitatively rated (0: absent to 3: pronounced) for the presence of ventricular enlargement, cortical atrophy and white matter lesions visible in the T2 sequence.

### Results

Two patients had both DM and HT and one had HT alone. There was no patient with no abnormal MRI findings. Seven patients (63.63%) had bilateral ventricular enlargement, and another 7 had cortical atrophy to one or more brain regions. 10 patients (90.90%) had non specific white matter lesions spread throughout the brain. Age correlated significantly with all MRI ratings ( $R = 0.53-0.79$ ). Patients with DM had more pronounced white matter pathology in the left parietal lobe ( $2.50 \pm 0.70$  vs.  $0.88 \pm 0.92$ ), while patients with HT had more pronounced white matter pathology in both parietal lobes ( $2.33 \pm 0.57$  vs.  $0.87 \pm 0.83$  and  $2.34 \pm 0.58$  vs.  $0.75 \pm 0.88$ ). Example MRIs are shown in the figures.

### Discussion

Brain lesions detectable with MRI may be present in the majority of bipolar I patients. Age and vascular risk factors may have an adverse effect on this brain pathology. The relation of these findings with the response to treatment and the course of the illness needs further research and clarification.