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DOUBLE DISSOCIATION OF DEFICITS IN VISUOSPATIAL MEMORY AND EXECUTIVE FUNCTION IN PATIENTS WITH MAJOR DEPRESSION WITH AND WITHOUT ECT REFERRAL

P. Oulis¹, S. Kalogerakou¹, V.-M. Papakosta¹, D. Kontis^{1,2}, E. Theochari¹, M. Koutroumpi¹, E. Anyfandi¹, I. Michopoulos³, C. Pouloupoulou⁴, E. Tsaltas¹

¹1st Department of Psychiatry, Eginition Hospital, Athens University Medical School, ²1st Psychiatric Department, Psychiatric Hospital of Attica, 'Dafni', ³2nd Department of Psychiatry, Athens University Medical School -Attikon Hospital, ⁴Department of Neurology, Eginition Hospital, Athens University Medical School, Athens, Greece

Introduction: The pretreatment neuropsychological profile of drug-resistant patients with major depressive disorder (MDD) referred for electroconvulsive therapy (ECT) may differ from that of their drug-respondent MDD counterparts. Such differences could help in identifying distinct MDD subtypes, thus offering insights into the neuropathology underlying differential treatment responses.

Method: Depressed patients with ECT referral (ECTs), depressed patients with no ECT referral (NECTs) and nonpsychiatric Controls (matched groups, n=15) were assessed with memory and executive function tests from the Cambridge Neuropsychological Test Automated Battery (CANTAB). **Results.** ECTs scored significantly lower than NECTs in the Mini-Mental State Examination (MMSE; $p=0.01$). NECTs performed worse than Controls in the Paired Associates Learning (PAL) task ($p < 0.03$; Control/NECT $p < 0.01$) and the Spatial Recognition Memory (SRM) task ($p < 0.05$; Controls/NECTs $p < 0.05$) ; ECTs performed between Controls and NECTs, not differing from either. In the Intra/Extradimensional (IED) set-shifting task, ECTs performed worse than Controls and NECTS (IED: $p < 0.01$; Controls/ECTs $p < 0.01$), particularly in the shift phases, which suggests reduced attentional flexibility. In Stockings of Cambridge (SOC), ECTs abandoned the test early more often than Controls and NECTs ($H=11$, $p < 0.01$) but ECTs who completed SOC performed comparably to the other two groups.

Conclusions: A double dissociation emerged from the comparison of cognitive profiles of ECT and NECT patients. ECTs showed executive deficits, particularly in attentional flexibility, but mild deficits in tests of visuospatial memory. NECTs presented the opposite pattern. This suggests predominantly frontostriatal involvement in ECT versus temporal involvement in NECT depressives.