Frontal lobe and insight

Ruiz I, Salgado P, Estallo JA, Garcia-Ribera C, Bulbena A, Ruiz AI.
Hospital del Mar, IAPS-Institut Municipal d’Assistència Sanitària. Universitat Autònoma de Barcelona.

Introduction
Poor Insight is usually found in up to 80 % of Schizophrenia patients. It has important treatment and prognostic implications (1). Poor insight is considered to be related to frontal lobe cognitive dysfunction, but there is no consensus about its specificity (2,3). The study aims to show a relationship between level of insight and neuropsychological function. We hypothesized that patients with lower insight will show frontal dysfunction as indicated by relative deficits in strategic vs. associative memory and in executive vs. non-frontal tasks.

Methods
43 DSM-IV schizophrenia or schizoaffective patients were assessed (Table 1). Clinical psychopathology instruments included PANSS and SUMD (Scale to Assess Unawareness of Mental Disorder). Neuropsychological testing assessed IQ, strategic and associative memory (using Moscovitch explicit memory model), executive functioning, information processing speed and visuo-spatial ability (4,5,6). The Spearman rank-order correlations were calculated between measures of neuropsychological function and insight. Then, patients were divided in two groups according to SUMD scores: ‘insight’ (<3) and ‘no insight’ (>3) and the Mann-Whitney U was used to assess group differences in neuropsychological test scores.

Results
The neuropsychological performance of the patient group did not show a high level of impairment. However, relative deficits appeared in processes associated with executive functions and memory (Table 2). Regarding awareness of disease, although only 20% of patients had low levels of insight as measured by the SUMD total score, 43% of patients had insight deficits on subdomains including awareness of suffering from a mental disorder and awareness of its social consequences (Table 3). We found no significant correlation between SUMD total score and cognitive variables. There was a relationship between the different SUMD dimension measures and temporary memory (TO), prospective memory, cognitive set-shifting (WCST), and WAIS-III block design. Additionally, no relationship was found between insight dimensions and non-frontal measures. Patients showing lower insight had significantly poorer performance on frontally relevant executive and memory tasks (Table 4).

Discussion
These preliminary results suggest a specific association between lack of insight and fronto-limbic dysfunction. The association identified with one of the frontal measures - block design - could be due to the high level of planning required by the task. However, the study results could have been affected by the good level of insight of the sample.

References