Polymorphism C366G of Gene *GRIN2B* and Verbal Episodic Memory: No Association with Schizophrenia

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Abstract—The present study searched for associations between gene *GRIN2B* (glutamate receptor, ionotropic, *N*-methyl-D-aspartate, subunit 2B) and component processes of verbal episodic memory in schizophrenic patients. The Rey Auditory Verbal Learning Test (RAVLT) as a part of a large neuropsychological battery was administered to 302 patients with schizophrenic spectrum disorders (sample PI). Also, 285 patients (sample P2) and 243 healthy controls (sample C2) performed the "10 words" test that measures short-term memory. The *GRIN2B* rs7301328 (C366G) polymorphism was genotyped for each subject. There were no associations between the polymorphism and any measure of the RAVLT either in the whole PI sample or in a subsample of patients with a severe cognitive deficit. The *GRIN2B* influenced immediate recall and proactive interference in the "10 words" test in the control group: homozygotes CC recalled fewer words and showed a lower effect of proactive interference than carriers of other genotypes. The results suggest that the C366G polymorphism could influence verbal episodic memory in the general population, but this influence is absent in schizophrenic patients.

Keywords: gene, glutamate, NMDA receptor, cognitive deficit, short-term memory, RAVLT

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