

Event Related Potentials in High-Functioning Autism (HFA) and GIFTED pediatric patients

S. Pro¹, R. Moavero², L. Di Criscito², D. De Stefano¹, F. Vigeveno¹, P. Curatolo², M. Valeriani^{1,3}

¹Department of Neuroscience and Neurorehabilitation, Ospedale Pediatrico Bambino Gesù, IRCCS, Rome, Italy

²Child Neurology and Psychiatry Unit, Tor Vergata University of Rome, Italy

³Center for Sensory-Motor Interaction, Aalborg University, Aalborg, Denmark

Objective. High-functioning autism (HFA) is a term used to refer to a subset of individuals on the autism spectrum who have cognitive and/or linguistic abilities that are in the average to above average range for their age. Gifted and talented children may be misdiagnosed with other conditions, such as HFA. Aim of this study was to investigate the event related potential (ERP) characteristics in patients with HFA and Gifted disorder to investigate whether distinct clinical features can be due to different pathophysiological mechanisms.

Materials and Methods. We enrolled 17 patients with HFA (12.83±2.5) and 16 with GIFTED disorder (9.8±2.4). The two groups were compared with control group. They all underwent recording of mismatch negativity (MMN) and P300 potentials. All patients underwent cognitive and neuropsychological evaluations.

Results. MMN amplitude was lower in HFA and GIFTED compared to control group. No difference was found between HFA and GIFTED groups. No differences were found with P300 potentials. Neuropsychological evaluation showed no difference between the two groups in cognitive profile while adaptive and executive functions were different between HFA/GIFTED patients compared to control group.

Discussion and Conclusion. Patients with HFA and GIFTED deficit present preattentive difference compared to control group.