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ABSTRACT BOOK

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significantly reduced in patients in both the single-task ($p = 0.021$) and the dual-task conditions ($p = 0.049$). Tapping performance was worse in patients as compared to controls, despite the lateralization of the infarct having no significant effect on tapping performance, indicating that diminished performance arose due to cognitive dual-tasking costs, rather than from motoric deficits. Overall, the findings suggest that the K parameter is strongly related to the amount of dual-task costs experienced by both groups, and that the cerebellum plays an important role in dual-tasking.

B36. Cognitive control in severe obese individuals: an ERP study

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Keywords: Cognitive control, Event-related potential (ERPs), Obesity, Food-related attention

Severe obesity has been associated with executive dysfunctions such as poor cognitive control during interference tasks. A source of behavioral studies showed lower cognitive control in obese compared to normal-weight when food-related stimuli are present, suggesting enhanced attention toward food (i.e. food-related attentional bias), which may reduce the efficiency of cognitive control. Here, cognitive control of interference in presence of food-related stimuli was assessed by means of event-related potentials (ERPs) and behavioral measures of cognitive control in severe obese individuals. Twenty-four obese and 28 normal-weight were evaluated in fasting state. Cognitive control in presence of food-related stimuli was investigated with a version of the Simon task modified with task-irrelevant food, object and neutral distractors. ERPs and reaction times (RTs) were registered in

spatial corresponding (C) and non-corresponding (NC) conditions for each distractor. Larger Simon effect in presence of food-related distractors was found in the obese group. The N2 amplitude was higher in C compared to NC trials only in normal weight, whereas this effect was not present in the obese group. Longer P3 latency was found in obese compared to normal-weight. Attentional bias toward food interferes with cognitive control in severe obese individuals, supporting previous evidences for a food-related motor impulsivity. For the ERPs, the finding of higher N2 amplitude in conflict trials (NC) in normal-weight, but not in the obese group, suggests impaired conflict detection in the latter. Longer P3 latency observed in the obese may reflect a slowing down in information processing speed.

B37. Connectivity correlates of impaired executive functioning in anorexia nervosa

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Keywords: Anorexia Nervosa, Iowa Gambling Task, Brain Connectivity

Anorexia nervosa (AN) is a severe psychiatric disturbance characterized by reduced food intake, abnormally low body weight, intense fear of gaining weight, disturbance of body image and persistent lack of recognition of the seriousness of the condition. AN patients typically show weaknesses in set-shifting, decision-making, central coherence, and behavioral inhibitory control. Our studies showed that set-shifting difficulties and cognitive inflexibility appear to be trait-related (i.e., no improvement is shown after weight recovery), but significantly influenced by the Catechol-O- methyltransferase (COMT) genotype in the underweight condition. Similarly, the functional connectivity of prefrontal cortex is affected by this polymorphism in the underweight AN group. The underweight AN group, but not the weight-recovered group, displayed significantly higher reaction times at the Stop-Signal test, a behavioral inhibition task. This impairment seems to be explained by significantly lower functional connectivity in the ventral attention network, although the association between functional connectivity within this network and the Stop-Signal reaction times appears to be modulated by the polymor-