Altered cortical excitability in anorexia nervosa.


Abstract:

Abstract OBJECTIVES: Recent EEG and positron emission tomography (PET) studies have reported hyperactivation of the right hemisphere in anorexia nervosa (AN). The aim of the present study was to test this notion by examining cortical excitability in subjects with AN using transcranial magnetic stimulation (TMS). METHODS: We investigated thirteen patients meeting the DSM IV diagnostic criteria for AN and 14 controls age and sex matched. Each subject was assessed clinically using the Eating Disorder Inventory (EDI), the Eating Attitude Test (EAT) and Beck's Depression Inventory (BDI-II). TMS measures involved resting and active motor thresholds (RMT, AMT) as well as motor evoked potentials (MEP), cortical silent period duration (CSP), transcallosal inhibition (TCI), and short latency intracortical inhibition (SICI) of the first dorsal interosseous muscle (FDI) were assessed. Cortical esophageal MEP latencies (CL) were also recorded. RESULTS: The RMT and MEP onset latency of the FDI and the esophagus as well as duration of the TCI were significantly reduced in anorexic patients compared to the control group. There were no significant differences neither in AMT nor CSP between patients and controls. Moreover, we found significant negative correlations between the EAT scores and RMT, and TCI duration. Although anorexic patients had significantly higher BDI score, there was no correlation between it and cortical excitability. CONCLUSION: Anorexic individuals are characterized by pathologically increased motor and esophageal cortical excitability that significantly correlates with clinical symptoms of anorexia nervosa.

Keywords:

KEYWORDS: Anorexia nervosa; Anorexie nerveuse; Cortical excitability; Cortical silent period; Excitabilité corticale; Inhibition intracorticale; Intracortical inhibition; Neuropsychiatrie; Neuropsychiatry; Période de silence corticale; Stimulation magnétique transcrânienne; Transcranial magnetic stimulation (TMS)

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