AS21-04 - REDUCTION OF PREFRONTAL THETA CORDANCE IN THE PREDICTION OF RESPONSE TO ANTIDEPRESSANTS

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Objective: Cordance is a QEEG method that incorporates both absolute and relative power and has been shown to have a strong association with cerebral perfusion or metabolism. Cordance accurately characterizes brain function on the cortical convexities and has demonstrated usefulness for characterizing antidepressant response. The aim of this study was to evaluate the efficacy of QEEG cordance in the prediction of response to various antidepressants in patients with resistant depression.

Methods: A total of 81 inpatients with depressive disorder (MADRS≥20) who previously did not respond to at least one antidepressant treatment were treated with various antidepressants for 4 weeks. QEEG cordance was computed at 3 frontal electrodes in theta frequency band (4-8 Hz). Depressive symptoms were assessed using Montgomery-Åsberg Depression Rating Scale.

Results: 29 from 33 responders and 14 from 48 non-responders decreased prefrontal QEEG cordance value after the first week of treatment (p=0,0001). There was a difference between responders and nonresponders in the change of cordance value after first week of treatment (p=0.002). Positive and negative predictive value of cordance reduction for response to treatment was 0.67 (0.58-0.73) and 0.90 (0.79-0.96), respectively. The overall accuracy of the test was 0.78 and the effect size (w = 0.59) was in large range.

Conclusions: Early change in prefrontal theta band cordance probably reflects a common underlying mechanism of antidepressant effect, regardless of the type of treatment. Prefrontal cordance may provide a useful biomarker for the early detection of response to antidepressant therapy.