論 文 要 旨

The effects of olanzapine treatment on brain regional glucose metabolism in neuroleptic-naive first-episode schizophrenic patients

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The purpose of this study was to identify metabolic alterations that predict a positive response to olanzapine and to correlate brain regions with symptoms that are improved by olanzapine treatment in neuroleptic-naive first-episode schizophrenic patients using [18F]fluoro-deoxy-glucose positron emission tomography analysis. Neuroleptic-naive first-episode schizophrenic patients who showed good or poor clinical response to olanzapine were assessed for symptoms using the Positive and Negative Syndrome Scale (PANSS). Before treatment, responders showed significant metabolic increases in the right superior temporal gyrus (STG) and cerebellum compared with healthy controls. Glucose metabolism in responders was significantly increased during treatment in the left precentral gyrus, left postcentral gyrus, and left paracentral lobule, and significantly decreased in the left hypothalamus. Analysis of PANSS symptoms associated with olanzapine treatment showed that ‘passive apathetic social withdrawal’ scores were negatively correlated with metabolic changes in the left precentral gyrus, and that ‘poor impulse control’ scores were positively correlated with metabolic changes in the cerebellum. These findings provide evidence of neural mechanisms underlying the effects of olanzapine on metabolism in the early stages of schizophrenia.