P-714 - INCREASED DNA METHYLATION STATUS OF THE OLIG2 GENE PROMOTER IN SCHIZOPHRENIA AND BIPOLAR DISORDER

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Background: Epigenetic changes may play a role in the etiology of psychotic diseases. It has been demonstrated that olig2 is implicated in schizophrenia (SCZ) and bipolar disorder (BPD). The aim of this study was to investigate the methylation status of a promoter region of the olig2 gene in BPD and SCZ patients.
Methods: Our study included 41 BPD and 45 SCZ (DSM-IV criteria) as well as 53 control subjects. DNA was extracted from blood leukocytes and bisulfited sequence analysis was used to determine the DNA methylation status of a typical CpGs island within the promoter region of olig2.
Results: We found the methylated cytosines occurred mainly in two clusters. Olig2 gene promoter was hyper-methylated(~30%) in DNA derived from the blood leukocytes in SCZ and BD compared to the controls subjects(P=0.01 and P=0.03, respectively). There was no statistically significant difference in frequency of site-specific cytosine methylation modification of Olig2 gene between SCZ patients and BD patients(P=0.21).
Conclusion: we observed increased DNA methylation in the promoter region of the olig2 gene of SCZ and BPD. This could explain the reported decrease of the gene expression. The current study supports the growing interest of DNA methylation in psychopathology.

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