

Over-expression of TGF- β 1 gene in ~~medication-medication-free~~ schizophrenia

<https://www.sciencedirect.com/science/article/abs/pii/S0306453017315597?via%3Dihub>

Psychoneuroendocrinology

Abstract

Background and purpose

Immunological pathways play a crucial role in developing and precipitating neuropsychiatric disorders. Although the exact pathogenesis of schizophrenia is unknown, the possible role of genetic ~~and~~, biomarker involvement of the immune system is ~~considering~~ gaining attention. Here we quantified the mRNA expression of cytokines as ~~the a~~ key role player of ~~the~~ immune systems from the peripheral blood mononuclear cells of patients with schizophrenia and healthy controls to identify the differentially expressed genes.

Methods

Sixteen ~~medication-medication-free~~ schizophrenia patients and 16 healthy subjects were enrolled in the current study. To investigate the desired expression level of mRNAs expression level, including *TGF- β 1*, *IL-1 β* , *IL-23*, *TNF- α* , *NF- κ B*, and *BDNF*, quantitative real-real-time PCR was performed using specific oligonucleotide primers and the *Applied Biosystems StepOneTM real time PCR system*. ~~The analysis of~~ DNA methylation was also analyzed through Methylation-methylation-Specific-specific Polymerase-polymerase chain reaction (MSP) ~~was carried out as well~~.

Results

TGF- β 1 was significantly up-regulated in peripheral blood mononuclear cells of patients vs. healthy individuals (P value = 0.03). In addition, we found a significant correlation between the positive symptom scale and *TGF- β 1* gene overexpression (r= 0.536, P=0.039). However, We did not observe any statistically significant differences for the methylation ~~status-status~~ of CpG Islands 1 and 2 ~~in-between the~~ patients and normal group; ~~also no~~ No statistical significance was found either for gene expression of *IL-1 β* (P = 0.32), *IL-23* (P = 0.12), *TNF- α* (P = 0.87), *NF- κ B* (P = 0.07), and *BDNF* (P= 0.33).

Conclusions

Although the number of medication-free schizophrenia patients is extremely limited ~~In spite of the fact that the numbers of schizophrenia patients who have not medications are extremely limited~~, our data highlighted the potential role of *TGF- β 1* as a regulatory cytokine in complex inflammatory mechanism ~~involving-involved~~ in ~~medication-medication-free~~