PalStudent Journal
A Palestinian Scientific Journal for the Youth

ABSTRACTS: VOLUME 7, SPECIAL ISSUE {7th Undergraduate Conference}

ABSTRACT

SNP on Interleukin-10 Promoter Associated with Schizophrenia, not Bipolar Disorder & C/An Predict Symptom Susceptibility

Yasmin Attili

Supervisors: Dr Imad Matouk, and Dr Rasmi Abu Helo

Al-Quds University

Importance: The pathophysiological mechanisms of Schizophrenia and Bipolar Disorders are not yet understood. Seeing as they occur in 1% and 4% of adults, respectively, recognition and targeted treatment are paramount. The rate of misdiagnosis between the two disorders is alarmingly significant and directly affects the appropriateness of treatment.

Objective: In response to the need to understand effectual disorders, we studied them in relation to a genetic variation that may be used as a genetic biomarker in the diagnosis process. We further assessed the possibility of using the polymorphism as a risk prediction model for comorbid depressive symptoms.

Design: Using PCR-RFLP, the variations on the promoter of interleukin-10 were compared with the genotype at the same position across schizophrenia, bipolar, and control groups.

Results: The results suggest that the CC genotype at the rs1800875 SNP is highly associated with schizophrenia (P = 0.028). The same SNP was also correlated with symptom type: the A allele is strongly correlated with depressive symptoms (P= 0.001), while the C allele is correlated with psychotic symptoms.

Conclusions: This study showed that the CC genotype is significantly correlated with schizophrenia. It also gave evidence to the similarity of allele distribution in bipolar patients and

Correspondence concerning this article should be addressed to the mentioned authors at the mentioned institutes.
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E-mail: research@admin.alquds.edu
Palestine, Abu Dis, Al-Quds University

healthy controls. More importantly, it has a strong correlation between the type of allele carried and the susceptibility to the type of symptoms, which has never been studied or shown. The A allele is strongly correlated with depressive symptoms, while the C allele is correlated with susceptibility to psychotic symptoms.

Relevance: The results indicate the importance of using genetic biomarkers as potential diagnostic criteria for mental health disorders. They also contribute to our understanding of the immune dysregulation theory and its application.

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