

The Macrophage Migration Inhibitory Factor and Stem Cell Factor Levels in Serum of Adolescent and Young Adults with Mood Disorders: A Two Year Follow-Up Study

Authors : Aleksandra Rajewska-Rager, Maria Skibinska, Monika Dmitrzak-Weglarz, Natalia Lepczynska, Pawel Kapelski, Joanna Pawlak, Joanna Hauser

Abstract : Introduction: Inflammation and cytokines have emerged as a promising target in mood disorders research; however there are still very limited numbers of study regarding inflammatory alterations among adolescents and young adults with mood disorders. The Macrophage Migration Inhibitory Factor (MIF) and Stem Cell Factor (SCF) are the pleiotropic cytokines which may play an important role in mood disorders pathophysiology. The aim of this study was to investigate levels of these factors in serum of adolescent and young adults with mood disorders compared to healthy controls. Subjects: We involved 79 patients aged 12-24 years in 2-year follow-up study with a primary diagnosis of mood disorders: bipolar disorder (BP) and unipolar disorder with BP spectrum. Study group includes 23 males (mean age 19.08, SD 3.3) and 56 females (18.39, SD 3.28). Control group consisted 35 persons: 7 males (20.43, SD 4.23) and 28 females (21.25, SD 2.11). Clinical diagnoses according to DSM-IV-TR criteria were assessed using Kiddie-Schedule for Affective Disorders and Schizophrenia-Present and Lifetime Version (K-SADS-PL) and Structured Clinical Interview for the Diagnostic and Statistical Manual (SCID) in young adults respectively. Clinical assessment includes evaluation of clinical factors and symptoms severity (rated using the Hamilton Depression Rating Scale and Young Mania Rating Scale). Clinical and biological evaluations were made at control visits respectively at baseline (week 0), euthymia (at month 3 or 6) and after 12 and 24 months. Methods: Serum protein concentration was determined by Enzyme-Linked Immunosorbent Assays (ELISA) method. Human MIF and SCF DuoSet ELISA kits were used. In the analyses non-parametric tests were used: Mann-Whitney U test, Kruskal-Wallis ANOVA, Friedman's ANOVA, Wilcoxon signed rank test, Spearman correlation. We defined statistical significance as $p < 0.05$. Results: Comparing MIF and SCF levels between acute episode of depression/hypo/mania at baseline and euthymia (at month 3 or 6) we did not find any statistical differences. At baseline patients with age above 18 years old had decreased MIF level compared to patients younger than 18 years. MIF level at baseline positively correlated with age ($p=0.004$). Positive correlations of SCF level at month 3 and 6 with depression or mania occurrence at month 24 ($p=0.03$ and $p=0.04$, respectively) was detected. Strong correlations between MIF and SCF levels at baseline ($p=0.0005$) and month 3 ($p=0.03$) were observed. Discussion: Our results did not show any differences in MIF and SCF levels between acute episode of depression/hypo/mania and euthymia in young patients. Further studies on larger groups are recommended. Grant was founded by National Science Center in Poland no 2011/03/D/NZ5/06146.

Keywords : cytokines, MIF, mood disorders, SCF

Conference Title : ICCAP 2018 : International Conference on Child and Adolescent Psychiatry

Conference Location : Tokyo, Japan

Conference Dates : May 28-29, 2018