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Difference in biological information for autism spectrum disorder and adjustment disorder: A trial study

Kayo Shichiri

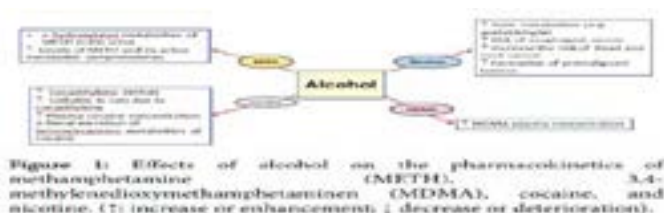
Niigata University, Japan

Introduction: Recently, young people diagnosed as Autism Spectrum Disorder (ASD) have increased in number. On the other hand, Adjustment Disorder (AD) is a common diagnosis in psychiatric consultation.

Purpose: The purpose of this trial study was to clarify the differences in biological information found in ASD, AD and no diagnostic (ND) control groups.

Methods: Subjects were 20 to 23 years old university students. 40% were diagnosed as ASD, 30% as AD, and 30% belonged to the ND group. Body temperature, and body surface temperature at five points was measured, as were blood pressures, and heart rate. Blood tests determined WBC, granulocyte, lymphocyte, CD56+NKcells, CD56+Tcells, γ DT cells, serotonin, noradrenaline, cortisol, adrenaline and dopamine levels. Average scores for the three groups were calculated and compared.

Results: Body temperatures of ND group were lower than ASD and AD groups. Body surface temperature was lower in ASD group. ASD group demonstrated higher levels of granulocytes, and lymphocytes in ASD group were lower. NK cells and NKT cells of AD subjects were lower than those in ND group. Serotonin and noradrenaline in both ASD and AD groups tended toward higher levels, and cortisol, adrenaline, and dopamine were lower. Discussion: ASD and AD groups, while demonstrating higher body temperatures than ND group, demonstrated lower body surface temperatures, thus, they might have bad peripheral blood circulation. ASD group had increased tendency towards natural immunity associated with granulocyte, NK cells, and NKT cells. However, cortisol and adrenaline levels in ASD group were lower, so there is a low possibility of correlation between natural immunity and stress hormone levels. Positive correlation between serotonin and NK cells was reported in medicated depressive patients given SSRIs. In this trial study, a tendency towards increased NK and NKT cells in ASD group is likely associated with serotonin.

**Recent Publications**

1. Shichiri K, et al., (2017) Characteristic changes defined via comparison of Big-Five Personalities in Japanese university freshmen from years 2000 to 2016. Health 9(10):1348-1354.
2. Shichiri K, et al., (2016) Correlations between the Profile of Mood States [POMS] and the WHOQOL-26 among Japanese university students. Health 8(5):416-420.

3. Shichiri K, et al., (2015) Features of developmental level of defense mechanisms and adjustment status of university students in Japan. Health 7(01):52-57.
4. Shichiri K, et al., (2015) A questionnaire survey in kidney transplant outpatients: factors associated with good self-management. Health 7(05):589-595.
5. Shichiri K, et al., (2015) The usefulness about the student mental health examination focused on mood disorders. Niigata Medical Journal 129(5):256-262.

Biography

Kayo Shichiri has completed her Graduation in Psychology at Rikkyo University. She started working as a Clinical Psychologist in the Department of Psychiatry, Niigata University Graduate School of Medical and Dental Sciences. Later she obtained PhD from the National University of Niigata. Currently, she is working at the Health Administration Center, Headquarters for Health Administration and Environmental Safety, Niigata University, with the specialties including Adolescent Psychiatry, Clinical Psychology, Developmental Psychology, Mental Health, Psychopathology, and Psychological Diagnostics. She has continued her research conscientiously and earnestly at the aforementioned school and concentrated her effort on Mental Health counseling for students and teaching staff at Niigata University.

shichiri@med.niigata-u.ac.jp

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