Relationship between Impulsivity and Serum Oxytocin in Male Children and Adolescents with Attention-Deficit and Hyperactivity Disorder: A Preliminary Study

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ABSTRACT

Introduction:
Here we aimed to determine the relationship between oxytocin levels and impulsivity, which is an important aspect at Attention Deficit Hyperactivity Disorder (ADHD) clinics.

Methods:
The study population comprised 40 ADHD patients diagnosed based on the Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime version, without other psychiatric disorders and chronic diseases aged between 8 and 15 years. The control group comprised 40 healthy, age-matched, male children and adolescents who voluntarily participated in the study. Patients and controls filled the Barratt impulsivity scale-11 (BIS-11). Ten cubic centimeters of blood was collected at 8 am for determining serum oxytocin levels. ELISA kits were used to measure serum oxytocin levels in a biochemistry laboratory. The obtained data were evaluated using appropriate statistical methods.

Results:
In this study, compared with the control group, the impulsivity scores were significantly higher and serum oxytocin levels were lower in the ADHD group (52.5±18.1 and 37.62±9.0, respectively, <0.001). Serum oxytocin levels showed a negative correlation with impulsivity and attention subscale scores of BIS-11 in the ADHD group.

Conclusion:
ADHD and impulsivity, which comprise an aspect of ADHD, may be associated with oxytocin. Serum oxytocin levels may contribute to inattention subtypes of impulsivity observed in ADHD.