First evidence of HERV-H transcriptional activity reduction after methylphenidate treatment in a young boy with ADHD.

D'Agati E, Pitzianti M, Balestrieri E, Matteucci C, Sinibaldi Vallebona P, Pasini A.


Abstract

Human endogenous retroviruses (HERVs) have been associated with many complex diseases including neuropsychiatric diseases, such as attention deficit hyperactivity disorder (ADHD). In ADHD an over-expression of HERV-H family in peripheral blood mononuclear cells has been documented. It has been hypothesized that HERVs may represent the link between genetic and environmental risk factors, contributing to the clinical onset and/or to the progression of the neurodevelopmental disease. The effect of pharmacological treatment on HERV transcriptional activity in psychiatric disorders has been attracting attention. Using a real-time RT-PCR we investigated the influence of methylphenidate on HERV transcription in peripheral blood mononuclear cells of a young patient with ADHD. In this clinical case we describe for the first time the reduction of HERV-H expression and the significant improvement of ADHD symptoms after 6 months of methylphenidate treatment.