

## Effect of Methylphenidate on Impulsivity in a Child with Pica and Attention Deficit Hyperactivity Disorder



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To the Editor:

Pica is defined as persistent eating of substances that have no nutritive value for at least one month in a developmentally inappropriate manner and the behavior should not be part of a culturally appropriate action. Although the etiological factors have not been clearly described, several psychiatric conditions including mental retardation, developmental disorders, dementia, schizophrenia, autism spectrum disorder, major depressive disorder, obsessive compulsive disorder (OCD), and attention deficit hyperactivity disorder (ADHD) have been reported in association with pica<sup>1-3</sup>. In this report, we present a 6-year-old girl with pica and ADHD who was successfully treated with methylphenidate.

A 6-year-old girl admitted to our outpatient clinic by her mother with complaints of eating substances that have no nutritive value like hair, fiber, slime, play dough, toothpaste, ice, paper, wood, and glue since her toddlerhood. Her mother revealed that her daughter was inattentive at school and not interested in doing her homework. Her school teacher reported that she was easily getting distracted in the class, unable to finish her tasks, and sometimes harming other students by sticking pencil or biting. Her pre and postnatal history was normal, she had allergic asthma but her medical records did not show any other abnormalities. Her family history was non-contributory except for her sister's having ADHD and OCD diagnoses. Her physical and neurologic examinations, complete blood count, liver, kidney, and thyroid functioning tests did not reveal any

signs of abnormalities and blood iron, lead, folic acid, zinc, and vitamin B 12 levels were all within normal range. Her height and weight was within normal range. Her psychometric evaluation revealed an average IQ level. Any obsessive, compulsive, anxiety and/ or depressive symptoms were ruled out by a thorough psychiatric evaluation. According to Diagnostic and Statistical Manual of Mental Disorders, 4<sup>th</sup> edition<sup>4</sup>, she met criteria for pica and ADHD/ combined type. She was prescribed 10 mg methylphenidate twice daily. At the end of four weeks, her attention deficit, hyperactive and impulsive behaviors and pica symptoms were improved and she was functioning well during the following year. Her global improvement rating on Clinical Global Impression–Improvement Scale (CGI-I) was 2 (much improved).

To date pica and ADHD comorbidity has rarely been described in the literature<sup>2,3</sup>. Herguner and Herguner<sup>2</sup> presented an 8-year-old boy who was diagnosed with pica and ADHD where symptoms related to pica and ADHD were both successfully treated with methylphenidate. The authors suggested that ADHD and pica may be associated either through poor impulse control or dysfunctions in the dopaminergic system. There are also reports on the exacerbation of pica with thioridazine which is well known for its anti-dopaminergic actions and reduction in pica with bupropion, an antidepressant which acts as an inhibitor of norepinephrine and dopamine reuptake<sup>1,5</sup>. Similarly, in our case pica responded well to methylphenidate supporting the hypothesis that in a subgroup of cases pica might

be related to problems in impulse control or dysfunction of the dopaminergic system and methylphenidate can be a reasonable treatment option. However, considering the fact that the literature consists of single-case reports only, there

is a need for further research to more fully understand the association between pica and ADHD and effects of psychostimulants on pica.

**Keywords:** *pica, ADHD, child, methylphenidate*

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