A Case of Pica in a Patient With Mental Retardation Treated With Venlafaxine Extended Release

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Pica is a dangerous behavior that can result in choking, poisonings, infections and intestinal obstructions. Pica can be a minor but stigmatizing behavior. We observed a patient with severe pica who responded dramatically to venlafaxine extended release with marked reduction in pica behavior over five months. This is the first reported case of response of pica to venlafaxine extended release.

Keywords: antidepressant, developmental disability, mental retardation, pica, psychiatric, venlafaxine

A 47-year-old white female with severe mental retardation was brought in for psychiatric evaluation. Two caregivers who knew the patient very well reported several incidents of pica including several items of very serious nature such as bottles of fingernail polish. She was known at the agency for 22 years and this particular behavior was first noted in December 1999. In 1989, it was noted that she had one discreet episode in which she attempted to swallow a needle. No other incidents were noted since then. In December 1999, she ingested several coins totaling $1.60 requiring hospitalization for medical stabilization. She also ingested food crumbs and garbage off the floor. She had three X-rays during the last three months showing foreign objects in the stomach. The program had carefully evaluated both the home and developmental training center areas in attempts to identify any possible precursors to the behavior. There was no indication of any relationship to staff changes at the facility. Day training changed from one building to another but residential setting was consistent. In terms of associated behaviors, she seemed more anxious with a discernible change in her approach to other people including staff. Although she used to be able to sit for a substantial amount of time on task, staff noted that she no longer could sit still at a project for any time at all. This had been noted over the past couple of years. No pattern of sleep change was known. There was no change in weight. Speech was always repetitive. The psychosocial and behavioral approaches attempted including sensory reintegration brought no improvement.

The patient had been in psychiatric hospital for many years but was never on any psychotropic medication in the previous years. She never used any other substances. Medical history included chronic problems with constipation and a punctured right eardrum. The patient's past medications include Dilantin, phenobarbital and chlorpromazine. Patient also had complete hysterectomy. Current medications are: estrogen, hydroxyzine, lactulose, docusate, diphenhydramine and psyllium. The patient's mother had a diagnosis of schizophrenia and died.
by jumping out of a window. Her father and sister are both alive but have had no contact with the patient for the past forty years. The patient is employed at a day programming center and resides in an intermediate care facility for the developmentally disabled (15 or fewer residents). Recent laboratory tests including zinc, hemoglobin and hematocrit were within normal limits. On presentation, the patient was dressed appropriately. There was no evidence of agitation. She spoke rapidly and in short phrases. She responded to questions with one or two word responses that sounded irrelevant. She appeared anxious but concentration and attention span were intact.

Our diagnostic impression included pica and generalized anxiety disorder (GAD). Venlafaxine extended release 75 mg a day was started with instructions that if tolerated, it should be increased to 150 mg per day after a week. Patient was seen back in clinic after two weeks. She was accompanied by the same staff members who reported no incidence of pica after the first dose of venlafaxine extended release. The patient still appeared anxious although significantly improved over her first appointment. The patient was seen in clinic again after three months. She had had two minor incidents of chewing and spitting clay but no ingestion. She still appeared restless so venlafaxine extended release was again increased to 187.5 mg per day. There were no noted side effects and elevation in blood pressure on this dose. Another follow-up appointment was scheduled for three months.

**DISCUSSION**

In DSM-IV, pica is described as the persistent eating of nonnutritive substances for at least one month. The behavior must be developmentally inappropriate, not culturally sanctioned, and sufficiently severe to warrant independent clinical attention if the eating behavior occurs exclusively during the course of another mental disorder (e.g., mental retardation, pervasive developmental disorder, schizophrenia). Our patient met DSM-IV diagnostic criteria for pica.

The cause of pica behavior has eluded researchers for centuries. Psychosocial theories surrounding pica have described an association with family stress. The sensory and physiologic theories center on the finding that many patients with pica say that they just enjoy the taste, texture, or smell of the item they are eating. A neuropsychiatric theory postulates that pica might be associated with certain patterns of brain
disorder in humans. Addiction or addictive behavior has also been suggested as one possible explanation for pica behavior in some patients. Nutritional theories are most commonly cited, which attribute pica to specific deficiencies of minerals, such as iron and zinc. Recently, there has been some evidence that pica is a part of the obsessive-compulsive disorder (OCD) spectrum of disorders. Case reports describe patients with severe mental retardation and OCD patterns, as well as patients of normal intelligence with OCD.

Several studies and case series suggest that venlafaxine is effective in anxiety disorders including GAD, panic disorder, social phobia, and OCD. Venlafaxine has also been evaluated in a phase I trial in the treatment of trichotillomania, which is closely related to OCD. Venlafaxine acts through potent inhibition of serotonin and norepinephrine reuptake and weak inhibition of dopamine reuptake.

Literature review suggests that in one case series involving five patients with pica two of whom also met diagnostic criteria for OCD and two for impulse control disorder, four of the five patients responded to treatment with selective serotonin re-uptake inhibitor. However venlafaxine not only acts on serotonin re-uptake but also on norepinephrine and dopamine reuptake. This patient did not have a single incident of pica for one month after venlafaxine was started and just two minor incidents in five months. One interesting feature of this case is a dramatic improvement of pica on venlafaxine extended release as compared to anxiety or any other associated behavior. Although venlafaxine extended release has been shown to be effective in anxiety disorders and mood disorders, we believe this is the first report of dramatic response of pica behavior to venlafaxine which could be related to its unique mechanism of action on serotonin, norepinephrine and dopamine re-uptake.

References


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