Cyclic vomiting syndrome treated successfully with fluoxetin

Dear Editor,

Cyclic vomiting syndrome (CVS) is defined as severe vomiting attacks which initiate suddently, recur with certain intervals, may last for hours and days and generally limit themselves. During attacks, signs including nausea, abdominal pain, photophobia, fever, palor, dehydratation, excessive saliva secretion and social isolation may accompany vomiting. Patients are completely healthy during the period between attacks. There is no laboratory or radiological finding which can explain the disease. It has been reported that the attacks may last for hours and days and the disease may last for months and years (1-3). The reasons of cyclic vomiting syndrome have not been elucidated fully yet. Hypersensitivity of the hypathalamo-pituitary-adrenal system and autonomic dysfunction in the autonomic system, disorders related with ion channels and mitochondrial disorders (like in migraine) and psychological factors have been blamed in the etiology (2-4). There is no clear consensus on the treatment of the disease. Life-style changes which target a decrease in the triggering factors, supportive therapies during attacks and prophylactic drug therapies are used (5). The information related with especially prophylactic treatment is limited, though various pharmacological agents are used. In this article, a patient who was treated successfully with fluoxetine which is a selective serotonin reuptake inhibitor used in prophylactic treatment of CVS was presented.

An 15-year old female patient was referred to our outpatient clinic by a pediatrician when she was 13-years old becauese the etiology of her vomiting could not be explained. It was learned that the first attack of vomiting started at the age of two, she had 9-10 vomiting attacks a year, the attacks lasted for three days, she had nausea which lasted for a few hours before vomiting and malaise and headache during attacks which required hospitalization. The family reported that the attacks were controlled with fluid-electrolyte support and antiemetic therapies, no medication was used for prophylaxis for the attacks, the patient continued her daily function outside attacks, some vomiting attacks were related with stress, her complaints increased especially when she started attending school and she was troubled with frequent hospitalizations because of vomiting.

In her personal history, she had no history of morbidity. Her mother reported that she had trouble with her studies compared to her peers after starting school, she learned reading in the second period of the first class of the primary school, she had moderate academic success, she was nervous when something she wished was not realized and she occosionally argued with her family beacuse of this. She had no familial history of CVS, migraine, epilepsy and psychological disease.

On psychological examination, she appeared at her age and her clothes were compatible with her socioeconomical level. Her peception, memory and orientation was normal. Her mood was normal and compatible with what she told. Her association of ideas were regular. She had ideas related with her dislike of school because of the difficulties she experienced with her studies, her trouble with vomiting and her wish to get rid of this condition. The patient was not diagnosed with any psychiatric disease as a result of the psychiatric examination performed and according to the Schedule for Affective Disorders and Schizophrenia for School Aged Children-Regular and Lifetime versions and her level of anxiety was high according to the State-Trait Anxiety Inventory. Complete blood count, complete urinalysis, blood gases, electroencephalogram, cranial brain tomography, electrocardiogram, abdominal ultrasonography, barium-contrasted esophageal graphy and upper gastrointestinal system endoscopy which were performed to investigate the etiology of vomiting were found to be normal. The patient whose tests and physical examination findings were found to be normal was diagnosed with CVS according to the clinical findings of the disease.

Since the patient who was not diagnosed with a specific psychiatric diagnosis had a high level of anxiety and some of her attacks could be triggerred with stress, fluoxetine which has anti-anxiety efficiency was initiated at a dose of 20 mg/day. In the 3rd month of treatment, a mild vomiting attack which did not require hospitalization occured. In the following follow-up period of 15 months, a

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complete recovery was observed in the attacks of vomiting. Fluoxetine was tolerated well by the patient and no side effect was observed.

Although sufficent information related with the clinical properties and course of the disease has accumulated, the information related with its incidence, etiology, pathophysiology and treatment is limited. The treatment of the disease is composed of the strategies of prevention of the attacks, attack treatment and prolongation of attack intervals. Replacement of fluid lost during attacks and use of antiemetics including ondansetrone and granisetrone have been found to be efficent in treatment of attacks (5). This patient received intravenous hydration and antiemetic treatment during the periods when she was hospitalized because of vomiting and her attacks could be controlled with these therapies. However, the frequency of her attacks did not change.

In case presentations, case series or retrospective file screening studies, antimigraine drugs, antiepileptics, flunarizine, L-carnitine, tricyclic antidepressants, olanzapine, mirtazapine and propranolol have been reported to be beneficial in the prophylactic treatment of CVS (1, 5-13). There is no sufficent information about the efficiency or reliability of these drugs used in treatment of cyclic vomiting syndrome. There is still no clear consensus on the treatment of CVS.

It has been found that psychological stress may be involved in the beginning of cyclic vomiting syndrome attacks and interiorized psychiatric diseases including especially anxiety disorder and mood disorders and psychosomatic complaints are observed frequently (3, 4). In this patient, the first attack of vomiting started at the age of two years with no relation with stress, but the subsequent attacks increased and became more severe with starting school and difficulty in studies. Sometimes vomiting was triggerred when her wishes were not realized or when she got nervous. In addition, vomiting itself and hospitalization considerably disrupted the patient's social and familial life and adaptation. These problems caused to anxiety and stress in the patient. Therefore, fluoxetine which is used in anxiety disorders was started at a dose of 20 mg/day. In the literature, there is no study related with use of fluoxetine in treatment of CVS. However, in one study, it was reported that fluoxetine was used in some patients with chronic vomiting and CVS and the symptoms of anxiety disorder and depression improved with fluoxetine, but vomiting was not affected (13). As a result of clinical interviews with the patient and according to the "State-Trait Anxiety Inventory" a decrease in the level of anxiety was found with fluoxetine. In the third month of treatment, a short attack occured. A complete recovery was provided in the patient who had no attacks in the follow-up. In this patient, improvement of the symptoms with initiation of fluoxetine may be related with decreased anxiety or an unknown mechanism.

Since CVS can be observed at any age, it should be kept in mind in the differential diagnosis of children who present with occasional vomiting attacks. In this way, unnecessary use of drugs can be prevented, treatment cost may be decreased and conditions which may be a stress factor including hospitalization may be prevented. In addition, psychiatric evaluation should be performed in these patients.

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