Cyclic vomiting syndrome

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Cyclic vomiting syndrome (CVS) is a functional disorder that constitutes a serious social problem and disturbs family dynamics due to vomiting intensity. Its identification based on clinical symptoms is helpful for the diagnosis and evolution of these. [b]

Introduction

CVS is a functional gastrointestinal disorder characterized by stereotyped episodes of recurrent, explosive, and unexplained vomiting, separated by intervals of complete normality in which, after adequate evaluation, no cause is found to justify them. [1] It was first described in 1861 by HC Lombard, in Paris, and by Samuel Gee, in London, in 1882. [2] Although it was described more than a century ago, its etiology, pathogenesis, and diagnosis are still unknown, which has led to the interest in pediatric gastroenterologists for the study of this current pediatric enigma. [2, 3] It appears to be more common than initially thought. Recent studies have reported a prevalence of CVS five times higher than celiac disease. Pediatric age is the most affected, but it can appear in adults; there are reports of the clinical picture from 6 days of birth to 73 years of age. It occurs more frequently in females. [2]

Ethiopathogenesis

Several hypotheses have been put forward about the etiology and pathogenesis of CVS since its original description. It is suspected that disorders produce it in the Cerebro-intestinal axis, which causes the body to respond in an exaggerated way with its normal defense mechanisms, such as nausea and vomiting, in the face of certain stimuli (stress, infections, overexertion, some food).s [4] Everything is the result of a disproportionately high secretion of corticotropin, cortisol, vasopressin and serotonin, which produce increased gastric and intestinal secretion, slow gastric emptying and activate the emetic reflex. Recently, other possibilities have been added, defended by some authors, such as gastrointestinal motility disorders and alteration in the obtaining of energy by the mitochondria, secondary to enzymatic defects of fatty acid metabolism or mutations in mitochondrial DNA. [2]

Clinical picture

Patients with SVC present severe and recurrent episodes of nausea and vomiting, very similar to each other. The onset is abrupt and occurs more frequently at night and early morning. In most cases, they are triggered by stressful situations (pleasant or unpleasant) and infections (common cold, sinusitis), although physical exhaustion and some foods such as cheese and chocolate can precipitate crises. [3, 5] The age at which It appears is usually the pediatric one, in preschool and schoolchildren mostly; in adults, it is less frequent and occurs during the third and fourth decades of life.Some patients experience prodrome from minutes to hours, in whom they feel anguish and significant discomfort. [2, 3] Once the episode begins, vomiting repeats very frequently; there are more than 4 vomits per hour and can reach the figure of more than 50 emeses per episode. [5] The duration is uniform in 85% of cases, usually between 1 and 4 days, while in others, they persist for 14 days. Half of the patients have a regular (cyclical) recurrence, several times a month or several times a year, and maintain an almost constant symptom-free inter-critical interval, although different from one child to another. [2, 3, 5] Parents define their children's personalities as determined, moralistic, dedicated, aggressive, enthusiastic, and competitive. [5, 6] Among the most frequent complications, we can mention electrolyte disorders and dehydration, inadequate secretion of antidiuretic hormone (ADH), peptic esophagitis, and Mallory-Weiss syndrome. We also include school absenteeism, which significantly alters family dynamics and constitutes a serious social problem. In recent years in the study of this enigmatic syndrome, the following criteria, known as the Rome criteria, were established for diagnosis: s [1, 2, 3] 1. Essential diagnostic criteria: A history of three or more periods of severe, acute nausea and non-remitting vomiting, lasting hours or days, with symptom-free intervals of weeks or months. There are no gastrointestinal, metabolic, structural central nervous system or biochemical diseases. 2. Supporting diagnostic criteria: Stereotypic pattern (each episode is similar in the moment of appearance, intensity, duration, frequency, associated signs, and symptoms in the same individual). Self-limited (episodes resolve spontaneously without treatment). In children with CVS, a 10 times higher prevalence of epilepsy has been seen compared to children without them. Migraine headaches occur in 11% of affected children, more than twice that of the general population. [7] Irritable bowel is much more common in these patients and their families.

Differential Diagnosis

It is a challenge for the doctor to exclude the underlying diseases as occurs in other functional disorders, but for this, we do not have to do an exhaustive study of the

organic causes, and we cannot comfortably think that it is a new episode, but we must always rule out possible intercurrent organic problems in each crisis. [8]

Differential diagnosis between cyclic vomiting and chronic vomiting

In order to improve the detection of this condition, quantitative criteria have been established to differentiate cyclical vomiting from chronic vomiting. [8] There are two criteria: peak intensity (maximum number of vomits per hour) and frequency (average number of episodes per month). These quantitative criteria reinforce the qualitative pattern of intermittent vomiting attacks, separated by health intervals originally used to characterize SVC.

Treatment

The ideal cure and treatment for CVS are unknown. There have been no controlled clinical trials evaluating the efficacy of the drugs used. Therapeutic management is based on the personal experience of some researchers and the cases reported in the literature. Treatment aims to decrease the number and severity of episodes and help children cope with their illness. It must be customized for each patient and will depend on the stage of the disease. We will use drug prophylaxis in symptom-free intervals, as long as the attacks are so frequent or severe as to justify the daily use of drugs. [9] It also includes the reduction of the factors that trigger the attacks. Abortive therapy will begin when there are recognized prodromes before nausea begins. In those patients who cannot be prevented, we will begin treatment of the crisis as quickly as possible. Acid secretion inhibitors can be used to protect the esophageal mucosa and tooth enamel. Hydro electrolyte imbalances will be addressed if present. [9] In the gastroenterology department of the Pediatric University Hospital "Borrás," we studied patients with a probable diagnosis of CVS over 2 years, intending to know the frequency and identify and validate the clinical characteristics. Patients and parents/guardians were surveyed for symptoms, and the complete physical examination at the first visit was performed according to the Rome criteria. Complementary tests were indicated that included biochemical and hematological tests, parasitological and bacteriological studies of stool, urine culture, metabolic tests in urine, electroencephalogram, endoscopic and pathological studies of the upper digestive tract and imaging studies of the skull to rule out organic diseases as possible causes. We obtained a diagnosis of CVS in 19 patients: the 5-9 year-old group was the most affected; the female sex with 57.9% and 84.2% of the patients were white. Paleness 19 (100%), social withdrawal 11 (57.9%), abdominal pain 9 (47.4%), nausea 6 (31.6%), headache and diarrhea 5 (26.3%), vertigo and fever 4 (21.1%), sweating 3 (15.8%), photophobia and excessive salivation 2 (10.5%). Migraine headache (6 cases; 31.6%), irritable bowel syndrome (2 cases; 10.5%), and motion sickness (1 case; 5.3%) were presented as associated diseases. Among the pathological antecedents in first-degree relatives, we found migraine headache (5 cases; 26.3%), irritable bowel syndrome (3 cases; 15.8%), epilepsy, and motion sickness (1 case; 5.3%). 63.2% identified specific situations that precipitated the crisis; of these 6 cases (31.6%) were stressful situations, 4 (21.1%) respiratory infections, and 2 (10.5%) were due to food. In 78.9% the episodes were stereotyped, the recurrence cyclical in 12 cases (63.2%) and irregular in 7 (36.8%) with 15 episodes on average per year. The duration of the episode was uniform in 15 cases (78.9%) and variable in 4 (21.1%). With recognized prodromes, only 5 cases (26.3%) while 14 (73.7%) had a sudden onset. Among the complications, isotonic dehydration was present in 11 patients (57.9%), peptic esophagitis in one patient (5.3%), as was Mallory-Weiss syndrome.

Conclusions

We conclude that CVS is relatively frequent in our outpatient Gastroenterology service.

Notes

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b. Original version of this article is Ref. [1]

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