

Cyclic Vomiting Syndrome

Shah Aiman, Bharti Kundal, Gurika Chopra

Department of Gastroenterology, Adesh Institute of Medical Sciences and Research, Bathinda, Punjab, India

Correspondence: Dr. Shah Aiman, Department of Gastroenterology, Adesh Institute of Medical Sciences and Research, Bathinda, Punjab, India. E-mail: shahhaiman@gmail.com

ABSTRACT

Cyclic vomiting syndrome (CVS) consists of recurrent paroxysms of severe nausea and vomiting separated by symptom-free periods. A 12-year-old boy presented with recurrent vomiting over a period of 3 years. Episodes occurred over a period of 6 months, and the patient remained normal for next 6 months. About 8 such episodes occurred in the last 6 months. Physical and neurological examinations were normal. All routine investigations were normal. He was started on cognitive behavioral therapy and cyproheptadine and improved gradually. CVS is considered a functional brain-gut disorder and is characterized by recurrent, sudden, stereotypical, disabling, discrete episodes of intense nausea and vomiting that can last a few hours to days interspersed with varying weeks of symptom-free intervals. Integrated treatment combining pharmacological, psychotherapeutic, psycho-educational and lifestyle aspects as well as family therapy provides the best chances of successful treatment.

Key words: (CVS): Cyclic vomiting syndrome

ملخص البحث :

تتميز متلازمة التقيؤ الدوري بفترات متكررة من الغثيان والتقيؤ يفصل بينها فترات بدون أعراض. يناقش الباحثون حالة لصبى في الثانية عشرة من عمره يعاني من تقيؤ متكرر لثلاث سنوات. وقد تكررت هذه الأعراض ثمانية مرات خلال الستة أشهر الأخيرة. لم يوضح الفحص السريري أو التحاليل المخبرية أي تغيرات غير طبيعية. أخضع المريض للعلاج السلوكي المعرفي إضافة إلى عقار سيبروهيبتادين. وقد ثبت أن المعالجة المتكاملة التي تحتوي على الأدوية والعلاج النفسي والتعليمي وتغيير نمط الحياة هي الأسلوب الناجح في مثل هذه الحالات.

INTRODUCTION

The occurrence of cyclic vomiting syndrome (CVS) was first described by Heberden in 1806, in France, and by Gee in 1882, in Britain and was named cyclic vomiting by Smith in 1937.^[1,2] CVS consists of recurrent paroxysms of severe nausea and vomiting separated by symptom-free periods.^[3] The average age at onset is 3-7 years, but CVS has been seen in infants who are as young as 6 days and in adults who are as old as 73 years.^[4] The symptoms are usually relieved by sleep, but most children will continue vomiting after they wake.^[5]

CASE REPORT

A 12-year-old boy who was born from a non-consanguineous marriage presented to the gastroenterology department of

our hospital with recurrent vomiting for 3 years. Episodes occurred over a period of 6 months, and the patient remained normal for the next 6 months. About eight such episodes occurred in the last 6 months prior to the presentation, each of which lasted about 9 days. Episodes usually started with severe retching ending with vomiting. Vomiting occurred 5 minutes after of ingestion of food, it was non-projectile, nonfoul smelling, nonbilious and contained ingested food material. These episodes were so severe that he had to be admitted in a local hospital each time and was treated by intravenous fluids and anti-emetics.

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How to cite this article: Aiman S, Kundal B, Chopra G. Cyclic vomiting syndrome. Saudi J Med Med Sci 2016;4:45-6.

Access this article online

Quick Response Code:



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DOI:

10.4103/1658-631X.170895

The physical and neurological examinations were normal. Barium swallow and upper gastrointestinal (GI) endoscopy were normal. All routine investigations including magnetic resonance imaging of the brain were normal. Tandem mass spectroscopy (screening test of a metabolic disorder) for urea cycle defect, organic aciduria, fatty acid oxidation disorder, and amino acid disorder was also normal.

His school record was good, and his academic performance was normal. The child was started on treatment with cognitive behavior therapy and cyproheptadine and was responding well.

DISCUSSION

Cyclic vomiting syndrome is characterized by recurrent, sudden, stereotypical, disabling, discrete episodes of intense nausea and vomiting that can last a few hours to days interspersed with varying weeks of symptom-free intervals. The estimated prevalence of CVS in children is in the range of 0.3-2.2%.^[6] In children, females appear to be more affected than males, compared with a male predominance in adults.^[4,7]

Criteria for cyclic vomiting syndrome

- At least five attacks in any interval, or a minimum of three attacks during a 6-month period.
- Episodic attacks of intense nausea and vomiting lasting 1 h-10 days and occurring at least 1-week apart.
- Stereotypical pattern and symptoms in the individual patient.
- Vomiting during attacks occurs at least 4 times/h for at least 1 h.
- Return to baseline health between episodes.
- Not attributed to another disorder.

Cyclic vomiting syndrome is now considered a functional brain-gut disorder in which central signals initiate a peripheral GI manifestation — vomiting. There appear to be a number of host susceptibility factors including a family member with migraine headaches (82% of CVS vs. 14% of chronic vomiting patients), mitochondrial dysfunction, and autonomic dysregulation. There is a strong matrilineal inheritance of CVS from migraines, elevated lactic acid, and several heteroplasmies in the control region of the mitochondrial DNA supporting involvement of mitochondrial DNA.^[8] There is also

heightened sympathetic cardiovascular tone in children with CVS compared to controls. These factors taken together suggest that in adequate cellular energy production at times of heightened needs (trigger factors mentioned below) leads to a metabolic crisis. This, in turn, leads to a deleterious effect on high energy requiring autonomic neurons resulting in an episodic autonomic crisis with vomiting. Similar to migraines, there appear to be common triggering factors including psychological stress (especially excitement), and infections potentially trigger vomiting. In this case, the death of his mother 3 years earlier and the stress were the triggering factors.

Cyclic vomiting syndrome, a potentially incapacitating disorder affecting all ages, was first recognized in children but has been increasingly documented in adults as well. The prevalence and pathophysiology are currently unknown. Some patients with CVS have increased psychiatric co-morbidity, with anxiety or depression being common presentations. Integrated treatment combining pharmacological, psychotherapeutic, psycho-educational and lifestyle aspects as well as family therapy provides the best chances for successful treatment.

Financial support and sponsorship

Nil.

Conflicts of Interest

There are no conflicts of interest.

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