



Cyclic Vomiting Syndrome in a 3 Year Old Girl: A Case Report

Authors

Sunil Kumar Agarwalla¹, Nasreen Ali²

¹Associate Professor, ²Junior Resident

Department of Pediatrics, M.K.C.G Medical College, Berhampur, Ganjam, Odisha- 760004 India

Abstract

Initially described in children, cyclic vomiting syndrome (CVS) is an idiopathic disorder that affects patients of all ages and is characterized by recurrent episodes of vomiting separated by symptom-free intervals or baseline health. Frequent misdiagnoses and delays in diagnosis often lead to years of recurrent vomiting. Similarities in the clinical features and symptoms of children and adults with CVS are often linked to migraines. Treatment is mostly empiric, with few controlled therapeutic studies conducted so far. Most children outgrow CVS with time, though some children transition to migraine headaches or continue to have CVS as adults.

Here we report a case 3 year old girl presented with repeated episodes of vomiting over a one year period. She had severe bilious vomiting, occurring in cycles which needed repeated hospital admissions, severely affecting her functioning. Management was instituted in eight phases and she responded well to her treatment.

Keywords: *Cyclic vomiting syndrome, migraine, bilious.*

Introduction

Cyclic vomiting syndrome (CVS) is a disorder of unknown etiology and pathogenesis typically characterized by recurrent episodes of vomiting separated by baseline or symptom-free periods.¹ The occurrence of cyclical vomiting syndrome (CVS) was first described by Heberden in 1806 in France and by Gee in 1882 in Britain². Classically perceived as a pediatric disorder, CVS is now receiving greater recognition in the adult population. North American Society of Pediatric Gastroenterology, Hepatology, and Nutrition (NASPGHAN) provided a consensus statement detailing guidelines in the diagnosis and management of CVS in children.³ CVS is typically misdiagnosed as gastroenteritis, gastroesophageal reflux, food poisoning, recurrent flu, or eating

disorders.⁴ Delays in diagnosis, however, appear less frequently in pediatric patients (1.9 years) than in adults (7.9 years).^{5,6} Although the exact prevalence of CVS is unknown, estimates in two recent studies of white children aged 5–15 reported a prevalence of 2%.^{7,8} Similar to the gender profile in migraine headaches, there is a slight predominance of girls over boys (57:43)⁹. The natural history of CVS in children is variable. Although a small percentage of children traverse all three phases of periodic disease (progressing from CVS to abdominal migraine and finally to migraine headaches), the majority of children experience resolution at a median age of 9.9 years.¹⁰ Approximately one third of children with CVS will transition to migraine headaches as adults.

Case Report

A 3 year old girl child was admitted to the paediatric department of M.K.C.G with complains of 6 episodes of bilious vomiting since last night. Of which 4 episodes of vomiting was within 1 hour. She had previous history of similar episodes for more than 1 year. There was no associated nausea, fever and abdominal pain. The child never complained of any headache preceding the episodes. Because of the bilious nature of vomiting, it was suspected to be due to obstruction but USG abdomen and upper GI endoscopy were both normal (Fig 1 and 2). Urine examination was normal. All other routine examinations were within the normal limits. Because of the cyclical episodes of vomiting without any associated cause and the history of normal functioning in between in between the episodes, pointed towards the diagnosis of CVS.

The child was kept nil per orally for 3 days and was given anti emetics twice daily. After which the child was allowed to take liquid diet for 2 days and by 7th day the child was able to take normal diet and was discharged with cyproheptadine (2mg) at night for a period of 3 months. On follow up the child was clinically stable and not having breakthrough episodes of vomiting. She was further advised to continue cyproheptadine for further 3 months. Besides this molecules like propranolol, flunarizine also can be tried to reduce the episodes of vomiting.

The family was counselled with education and information on how best to approach such vomiting episodes. The patient was instructed to maintain a vomiting diary.



Fig 1 showing normal USG



Fig 2 showing normal upper GI endoscopy

Discussion

At present, there are no specific tests for diagnosing CVS, and the diagnosis rests upon fulfilling clinical criteria. In a recent consensus statement on the diagnosis of CVS in children, NASPGHAN proposed criteria that included the following: at least 5 episodes overall or a minimum of 3 episodes noted in a 6-month period; recurrent attacks of vomiting and nausea lasting 1 hour to 10 days and occurring at least 1 week apart; stereotype of symptoms and episodes; vomiting during episodes occurring at least 4 times per hour for at least 1 hour; returning to baseline health between episodes; and not being attributable to another disorder. Approximately 90% of children who fulfill these criteria are found to have CVS¹¹. Most of the testing with recurrent vomiting is directed toward identifying underlying gastrointestinal, neurologic, renal, metabolic, and endocrine causes in remaining 10% of children. Distinguishing a cyclic pattern of vomiting from chronic vomiting is a key first step in the diagnosis of CVS. Current treatment for CVS can be divided into supportive therapy (during episodes), prophylactic therapy (to prevent episodes), and abortive therapy (to prevent progression from prodromal symptoms to the vomiting phase). Strategies for management of CVS during the interepidemic period include avoidance of identified triggers, lifestyle changes, and psychological interventions.

Conclusion

CVS is an idiopathic functional vomiting disorder initially described in children that is increasingly recognized in adults. Although documented pathophysiologic associations with migraine, mitochondrial disorders, and neuroendocrine abnormalities have been described in pediatric CVS. The natural history of CVS in children suggests that most will outgrow this debilitating disorder with time, though some will transition to migraine headaches and even continue to suffer CVS as adults.

Contributors

Dr Sunil Kumar Agarwalla- revising it critically for important intellectual content.

Dr Nasreen Ali-conception and design and drafting

Conflict of Interest

There was no conflict of interest and no funds received.

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