

Case Report

Cyclic vomiting syndrome responding to amisulpride – A case report

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ABSTRACT

Cyclic vomiting syndrome (CVS) is an uncommon functional condition defined by recurring episodic stereotyped vomiting with a sudden start and an unknown origin. CVS can be triggered by a variety of conditions, and the course and management are often determined by the triggering factors. We present the case of a 13-year-old female youngster who complained of frequent bouts of vomiting that coincided with the onset of menses. We started her on oral amisulpride 50 mg a few days before each menstrual period. As a result of the treatment, in the following menstrual cycle, she had a dramatic improvement in her symptoms.

Keywords: Cyclic vomiting, Amisulpride, Premenstrual vomiting, Amino sulphiride

INTRODUCTION

Cyclic vomiting syndrome (CVS) is a functional illness with unknown cause defined by stereotyped repeated episodes of vomiting of acute onset and length (1 week) with three or more separate vomiting episodes in the previous year and absence of nausea and vomiting between episodes.^[1] Interepisodic well phase, pre-emetic or prodromal phase, emetic phase and recovery phase are the four phases. In the afferent and efferent brain-gut axis of nausea and vomiting, CVS appears to involve dysregulated central neuronal circuits and neuroendocrine mediators. Autonomic, GI, central neuroendocrine and mitochondrial metabolic variables have been suggested to have additional pathogenic roles. Migraine, anxiety, depression, marijuana usage, infection, diet and physical weariness are all frequent CVS-associated triggers.^[2] CVS subgroups include: (i) Those with migraine; (ii) hypertension during episodes (Sato variant); (iii) catamenial CVS; (iv) diabetes subgroup; (v) those with coexisting neuromuscular disorders (CVS plus); (vi) association with extreme anxiety; (vii) morning nausea and/or vomiting only and (viii) post-infectious subgroup. In some women, episodes are triggered by menstruation,^[1,2] thus, there is a need to have a separate subgroup of CVS associated with the menstrual cycle. Antiemetics, anxiolytics, gastric acid suppressants, l-Carnitine, α -receptor antagonists, anti-epileptic medicines and treatment for the related condition are among the pharmacological treatments. It's unclear whether the various CVS subgroups respond differently to the various treatments available for the condition. We present the case of a 13-year-old female youngster who complained of frequent bouts of vomiting that coincided with the onset of menses. We started her on oral amisulpride 50 mg, which she took before menses began, and she reported significant improvement in her symptoms in the ensuing menstrual cycle.

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CASE REPORT

We present the case of a 13-year-old female adolescent who experienced multiple, separate bouts of vomiting 3 days before her menstrual period, spanning roughly 4 days with an asymptomatic time in between. The girl had previously presented to the outpatient gynaecology and paediatrics departments, where she underwent an exhaustive evaluation to determine the aetiology before being transferred to the psychiatry department. She had been suffering repeated episodes of vomiting for 3 months, 3 days before to the commencement of menses, according to her medical history. Within an hour, she would have at least 4–5 episodes of vomiting and be unable to eat or drink anything. Following the episodes of vomiting, the youngster experienced throat soreness. These attacks were debilitating and lasted for 4 days. She would frequently miss school during this time. Since then, her symptoms have gotten worse with each cycle, forcing her to be admitted to the hospital. The youngster was fully asymptomatic in between periods. During her hospital stay, she had routine tests, including an upper gastrointestinal endoscopy, which came out normal. Proton-pump inhibitors and anti-emetics were given, but these did not help her symptoms. Only after the periods stopped did the problems subside. On the emergence of nausea, she was advised to take oral amisulpride for 5 days before her next menstrual cycle, and she was discharged after she felt better. The amount was 50 mg because it was the lowest available strength, one-fourth of the usual adult dose and unlikely to elicit side effects such as sleep difficulties, agitation or EPS that would interfere with her schoolwork. The child took tab. amisulpride as advised during her following cycle. The child was symptom free and had no instances of vomiting. She has been doing well since then and has been encouraged to keep taking her medication in the same manner.

The child was the lone child of a non-consanguineous marriage, according to the history. There are no stressors in the family, and relations between family members are cordial. Her mother had hyperemesis gravidarum during her first trimester of pregnancy, but there was no other major family history. Due to a post-term pregnancy, the infant was delivered by caesarean section with a birth weight of 4 kilos. There were no complications after the birth. Milestones in development were normal. In her early life, she had the neurotic characteristic of biting her nails. She was well-adjusted in school and had a good academic record. She was 12 years old when she reached menarche and had a 28-day cycle with 7–9 days of bleeding.

DISCUSSION

CVS is an uncommon illness that usually presents in emergency medicine and paediatric OPD, but only rarely

in psychiatric settings. Because of the physical character of the symptoms, it is sometimes misinterpreted as a gastrointestinal tract condition (gastritis), resulting in treatment delays. CVS can affect anyone at any age; however, it is more common among adolescents. It affects both men and women equally. In children, the typical age at first diagnosis is 5 years, whereas in adults, the average age of onset is roughly 22 years.^[3] CVS is classified as mild if it does not interfere with patients' capacity to work or attend school; moderate if job or school enrolment is jeopardised and severe if the time they were disabled by cyclic vomiting equalled or exceeded the time they were well. Over months or years, CVS episodes have a consistent length and symptomatology.

This case is unique for two reasons: First, it is linked to the adolescent menstrual cycle, and second, the treatment response to a low dose of amisulpride. The link between menstrual cycle and CVS has been documented in the adult population, however, it is uncommon in younger people. Menstruation, noxious stress, pleasurable excitement, exhaustion and infection are the most common triggering factors in adult women. The role of the endocrine system in the pathogenesis of CVS could be linked to the menstrual cycle. Tache believes that altered CRF receptor-mediated signalling is a crucial factor in causing emesis in CVS patients.^[4] Many reports have revealed that contraceptives can alleviate or exacerbate symptoms, and that treatment with gonadotropin-releasing hormone, which downregulates the pituitary-ovarian gonadal axis and lowers levels of gonadotropin, luteinising hormone and follicle-stimulating hormone, can improve symptoms. The hormone progesterone has been linked to vomiting during pregnancy. Because all episodes of vomiting were premenstrual and comparable to premenstrual dysphoric disorder, reproductive hormones, notably oestrogens and progesterone, appear to have some etiological importance in this case.

Amisulpride neurobiological mechanism in CVS remains unknown. Its antiemetic property could be one such mechanism. To manage medication-induced and post-operative nausea and vomiting, a modest dose of amisulpride has been used.^[5] Amisulpride efficacy does not appear to come at the expense of any substantial side effects. It is neither a substrate for nor an inhibitor of cytochrome P450 isoenzymes, hence, it has a low risk of drug interactions. It can be used safely in elderly people, whose pharmacokinetic profile is similar to that of younger people, as well as in patients with renal failure, who have a modest increase in plasma concentration, which is unlikely to be a clinical issue, especially at the low doses that have been shown to be effective in studies.^[6] Amisulpride antiemetic action appears to be mediated by its potent D3 receptor antagonistic activity. Amisulpride also inhibits GnRH release from the hypothalamus through modulating intracellular communication within GnRH neurons through

its affinity for D2 receptors in the pituitary, resulting in hyperprolactinaemia.

CONCLUSION

Patients with repeated vomiting crises should have a thorough understanding of their medical history and triggering events. Low dose of amisulpride may be a therapeutic approach for avoiding symptom of episodes in women with menstruation-related CVS.

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Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

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Conflicts of interest

There are no conflicts of interest.

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