

Case Report

Rumination Disorder: An Unexplained Case of Recurrent Vomiting

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ABSTRACT

Rumination disorder or rumination syndrome is an infrequent clinical presentation reported in infants and young children as well as adults worldwide. Studies calculating prevalence and etiological considerations are very few, and the scientific literature mostly consists of anecdotal case reports and series. Awareness of this clinical entity is obscured by presentations mimicking upper gastrointestinal disorders, mostly recurrent vomiting. The repetitive, voluntary, habitual nature of this disorder is vulnerable to be missed out if not looked for specifically in the history. Here lies the importance of increasing the awareness about diagnosis of this disorder and the need to operationalize treatment guidelines for this disorder which has long-term physical, psychological, and economic consequences if not treated early in its course.

Key words: *Conditioning, psychological, rumination, vomiting*

INTRODUCTION

Rumination disorder is a rare clinical presentation in which partially digested food is regurgitated into the mouth effortlessly and painlessly soon after eating and without any nausea, vomiting, or disgust.^[1] Food is then swallowed or spat out. It is mostly observed in young infants and frequently follows developmentally appropriate regurgitation of foods immediately after eating.^[2] In recent literature, its reporting across all age groups is increasing. In the only large cohort study done in Sri Lanka, 5.1% boys and 5% girls aged 10–16 years were found to have this disorder.^[3] Rumination syndrome is the term used in the place of rumination disorder in gastroenterology and is one of the less

commonly recognized functional gastrointestinal disorders in the pediatric age group.^[2-5] A high index of suspicion is needed to differentiate it clinically from gastroesophageal reflux disease (GERD), recurrent vomiting, and upper gastrointestinal motility disorders such as gastroparesis.^[2] A delay in the diagnosis and treatment can lead to weight loss, malnutrition, dental erosions, halitosis, electrolyte disturbances, and an increased risk of psychiatric comorbidities together with resultant significant functional disabilities.^[4] This unnecessarily increases the cost burden through multiple hospitalizations and numerous costly investigations.^[2] Although mostly thought to be

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exclusive among children having intellectual disability in the past, it is now well recognized among intellectually normative population.^[5] One case was reported from India describing clinically an adult who presented with adult rumination syndrome,^[6] which highlighted the importance of informed clinical suspicion in diagnosing this disorder.

Here, we present a childhood case of rumination disorder fulfilling criteria laid by the Diagnostic and Statistical Manual-5th edition (DSM 5).^[1] This is the first such case in this age group reported from India as per as our knowledge.

CASE REPORT

Master A was a 9-year-old male child of middle socioeconomic status from an urban background and was studying in the 5th standard. The patient presented first to the surgery department accompanied by his mother with a history of multiple episodes of nonprojectile vomiting occurring each day for the last 3 months about half an hour after food intake. It was not preceded or accompanied by any nausea, retching, pain abdomen; there was no drowsiness/dizziness or change of taste in mouth after vomiting. It was more as “spitting out” food from the mouth than actual vomiting. Routine laboratory tests such as liver function tests, renal function tests, ultrasonography of the whole abdomen, and routine blood with erythrocyte sedimentation rate were within normal limits.

The patient was then referred to the Pediatric Surgery Department, and a normal developmental history was obtained. On detailed probing, the total duration of the illness was found to be around 2 years, which started after an acute episode of GERD 2 years back but had become more frequent for the last 3 months. The electrolyte panel, endoscopic evaluation, colposcopy, barium meal follow through, and computed tomography scan of the abdomen couldn't detect any abnormality and achalasia cardia, pyloric stenosis, biliary tree obstructions, liver parenchymal pathology, intussusceptions, volvulus, diaphragmatic hernia, esophageal obstructions, and upper gastrointestinal motility disorders such as gastroparesis were ruled out. He was treated with adequate trials of gastrokinetics, antiemetics, antihelminthic agents, antacids, and proton-pump inhibitors, but to no avail. On the basis of a suspicion for psychological factors, the patient was then referred to the Psychiatry Department. When enquired about the nature of vomiting, mother was unable to give a clearer picture, but the patient himself clarified that he deliberately used to regurgitate food sometimes after eating and that it used to give him a sense of relief. He learned it after the acute episode of

GERD 2 years back, and gradually, he could do the act without much effort. Although he mostly used to spit out the regurgitated content, over the course of time, our patient began to indulge more often into rechewing of the regurgitated food. His mother and father were living separately for sometimes before his onset of GERD. His father had an extramarital affair for a long time, and the patient witnessed frequent quarrels between his parents before their separation. A pattern of overintrusive and overprotecting mothering was observed during the interview. No other significant medical or surgical history was obtained, and no one from his maternal or paternal sides had history of any mental illness. He was good in academic performance with an easy going temperament, and behavior in school was normal. Physical examination revealed normal systems with age appropriate weight and height. Mental status examination did not reveal any behavioral, mood, thought, or perceptual disturbance, and the patient was attentive and had average intellectual capabilities. The patient did not report any “premonitory urge” preceding the act of regurgitation and the repeated regurgitations and spittings lacked any compulsive quality. The Indian adapted version of the Wechsler's Intelligence Scale for Children gave a normal intelligence total score for him. There were no socialization deficits; he had neither any persistent fear of being fat nor any binge or restrictive pattern of eating. No history of any head injury, convulsion, headache, disruptive behavior, learning disabilities, or gender dysphoria was present in the patient.

A provisional diagnosis of rumination disorder was made according to the DSM 5 criteria and treatment strategy was formulated. He was put on oral fluoxetine 10 mg/day to start with which was increased to 20 mg/day on subsequent follow-up visits. In the second follow-up, mother reported some improvement in the frequency of the regurgitations and habit reversal training (HRT) was started concomitantly. As of the preparation of this report, the patient is maintaining the gains from pharmacotherapy and HRT. Written and informed consent was taken from the patient's guardian before preparation of this report, and approval of the Institutional Ethics Committee was obtained. Every effort was made in this report to maintain the patient's identity anonymous.

DISCUSSION

We here present a child who voluntarily regurgitates and vomits swallowed food without any clinical evidence of gastroenterological disease. Although epidemiological studies are rare, our patient falls into the same age category as reported in a large epidemiological study from Sri Lanka.^[3] Various etiological factors are proposed

in the literature, such as raised intragastric pressure,^[4,5] higher gastric sensitivity, increased frequency of lower esophageal sphincters relaxation,^[7] and gastroparesis^[8] although antroduodenal manometry found evidence for raised intragastric pressure in only a minority of the studied population.^[4,5,9] Rumination syndrome, as this disorder is referred to in the gastroenterology, is considered to be a type of functional gastroenterological disorder.^[4,8] Most of the previous authors deemed gastric manometry unnecessary, and hence, we did not consider this investigation in our patient.

Increased occurrence of gastrointestinal pain and weight loss were frequently observed in previous studies^[2,5] although our patient did not report any such symptom. An increased prevalence of psychiatric comorbidity is found in patients and relatives of rumination disorder of particular interest being depression, anxiety, and personality disturbances in hypochondriasis domain^[2,4,9] which are found in a backdrop of significant emotional stress.^[9] In the same vein, significant psychosocial stressors were present in our patient. The family environment was very chaotic which was punctuated by frequent fights between his parents regarding his father's extramarital affair. A pattern of overintrusive and overcaring parenting was noticed and the mother put very high expectations over the child's academic achievements. All these stress factors made our patient vulnerable for future maladaptive coping strategies as we postulate ahead.

Our patient reported a sense of relief, following the ruminations initially during illness, which gradually became an instrumental positive reinforcer^[10] solidifying the rumination behavior according to the "operant conditioning" paradigm. Thus, the self-soothing nature of the ruminations helped him cope with the ongoing stress. The temporal association of the GERD episode with the onset of his regurgitations strengthens the notion that rumination disorder or syndrome occurs in a backdrop of gastroparesis or GERD as previously reported.^[8] This organic etiological basis is supported by high number of other functional gastrointestinal disorders frequently comorbid with rumination.^[3] This leads us to propose a "double hit hypothesis" which can explain the etiopathogenesis of this rare disorder. That is, a psychosocial adversity or stressor forces a child to adopt any coping strategy available to him or her, which in this case was found in the self-stimulatory and positively reinforcing nature of the ruminating behavior, learned as a consequence of the incident gastroesophageal reflux which is the second hit.

Thus, our case strengthens the notion that rumination disorder can occur in age groups other than infants

and underscores the importance of early diagnosis of this disorder to prevent multiple future medical and psychiatric comorbidities.^[3] In line with the previous case report from India highlighting the role of supportive psychotherapy,^[6] our patient improved on a combined regimen of pharmacotherapy and HRT who failed to respond to standard pharmacotherapy for gastroenterological disorders. Our patient, as of this report is maintaining the gains from HRT and fluoxetine combined therapy, our observation is short term. We believe that future long-term prospective studies specifically powered for assessing efficacy of different therapeutic interventions will help standardize the management protocol for this interesting disorder.

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Conflicts of interest

There are no conflicts of interest.

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