Case Report
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Clinical and Psychological Profile of Three Adolescent Female Patients with Chronic Unexplained Vomiting: Relevant Diagnostic and Nosological Issues

Srivastava P[1]* and Pattnayak R[2]

[1]*Psychologist, Center for Allied Psychiatry and Psychological Services, USA*

[2]*Associate Professor, All India Institute of Medical Sciences, India*

Abstract

The paper discusses the clinical presentation and profile of a series of cases with psychogenic vomiting presenting to child and adolescent psychiatric clinic at a tertiary care hospital, A.I.I.M.S., New Delhi, India. It adds to the scarce reports on vomiting of psychogenic origin. Current classificatory systems subsume the psychogenic vomiting as a form of eating disorder, in spite of several obvious differences. Psychogenic vomiting might warrant a recognition as an entity independent from eating disorders. Given the clinical presentation in this series, vomiting associated with psychological factors as a solitary symptom merits clinical and research attention.

Keywords: Adolescent; Psychological; Psychogenic vomiting; Psychiatric

Introduction

'Psychogenic vomiting' is a fairly uncommon presentation and has been under-researched, but it is increasingly recognized that this condition can also be highly disabling [1]. Psychiatric literature is, surprisingly, scarce on vomiting of possible 'psychogenic origin', with an association topsychosocial stressor with no known organic basis. Further, few available reports using psychogenic vomiting are quite outdated [2], and no fresh attempt has been made to assign a modern psychiatric label. In recent times, reports on non-organic vomiting mainly come from the gastroenterology journals, where instead of a focus on 'psychogenic' factors, a conceptually somewhat different phenomenon of 'idiopathic functional' vomiting has been emphasized which may or *may not* be linked to psychosocial stressors (i.e. vomiting due to presumed dysfunction of gut axis in absence of structural or biochemical abnormalities,) [3,4].

According to the Rome III criteria [5] on functional gastroenterology disorders, 'functional vomiting' is defined as recurrent, unexplained vomiting one or more episodes per week that is not cyclical and lacks an organic basis, and does not occur in the context of self-induced, chronic cannabinoid use and absence of criteria for an eating disorder, rumination or major psychiatric disease. Though there is no concrete evidence to support an association between any psychiatric disorder and chronic, unexplained nausea and vomiting, but stress can act as modulator via the brain-gut axis to influence clinical presentation and outcome, which suggests that the association between functional and psychosocial aspects needs to be investigated [4,6]. Recognition of psychogenic vomiting, both either as a distinct disorder or as a symptom occurring as a part of other mood, stress and anxiety-related disorders, can help in early identification and appropriate management of the patient.

This paper discusses the clinical presentation and profile of a series of three cases with psychogenic vomiting presenting to child and adolescent psychiatric clinic at a tertiary care hospital, A.I.I.M.S., New Delhi, India. It attempts to add to the scarce reports on vomiting of psychogenic origin. Given the clinical presentation in this series of three cases vomiting associated with psychological factors as a solitary symptom needs attention.

Case Presentations

Case 1

Ms A, 14 years, female, student, from rural, joint muslim family presented with repeated vomiting since 1.5 years and amennorhoea since one year. Patient's elder brother was reportedly

Correspondence:
Psychologist, Center for Allied Psychiatry and Psychological Services, USA.
E-mail: *paakhisrivastava@gmail.com*

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Table 1: Clinical and psychological profile of three patients with psychogenic vomiting.

	Case A	Case B	Case C
Age, gender	14 years, Female	15 years, Female	13 years, Female
Presentation	Vomiting for 1.5 years	Vomiting for 3 years	Vomiting for 1.5 years
Stressor	Critical comments for low academic performance	Failed to secure 1st position by a small margin	Failure to complete home assignments & punishment in class
Symptomatology	Vomiting – always after meals (Post-prandial) No nausea	Churning sensation in abdomen, associated with nausea, headache	Pre prandial churning sensation in abdomen, associated with nausea, light headedness
Amenorrhea	Present	Absent	Absent
Any significant weight change	No	No	No
Expressed concern over her appearance or being fat	No	Not predominantly; Eating outside food	No
Socio-academic dysfunction	Absenteeism	Absenteeism	Absenteeism
Family history	Mother-dissociative disorder	Absent	Absent
Premorbid temperament	Difficult	Slow to Warm up	Slow to warm up
Intelligence Quotient (IQ) MISIC	92 with adequate cognitive and abstraction ability	94 with adequate cognitive and abstraction ability	86 adequate cognitive but poor abstraction ability
Draw a Person Test (DAPT)	Emotional difficulties Deprivation and Guilt feelings	Emotional Immaturity and over-concern about intellect	Emotional immaturity, tendency for uninhibited impulse control and sensitivity to criticism
Rosenberg' s picture frustration test protocol	emotionally unstable, immature; lacks problem focused coping with poor ego strength	emotionally unstable, Poor ego strength Lack of problem focused coping skills	Poor ego strength Lack of problem focused coping skills
Children Apperception Test (CAT)	Dominant need for achievement need for affiliation, need for succorance and abasement	Dominant need for achievement, exhibition and approval.	Dominant need for achievement and approval
Rorschach 's psychodiagnostics	Poor ego strength, Absence of pathogenic indices	Poor ego strength, Absence of pathogenic indices	--
Others	NIMHANS SLD battery revealed difficulty in reading, writing and comprehending Hindi & English (almost 2-3 grades below her current grade).	--	--

overtly critical of her 'just average' academic performance. She was constantly afraid of being reprimanded by her brother and would withdraw to her room, skip meals and refused any interaction after brother scolded her. Patient's close relative, with tuberculosis, would have cough and spit blood-stained sputum during this time, following which she was relieved of work.

Within a few weeks, Ms S also started vomiting; the vomitus was seen to be stained red in initial few episodes. The parents; who would pay more attention and ask her to rest. The brother accused her of faking symptoms, using a red color, which was, at times, visible around mouth.

After 4-5 of episodes like above, she started having frequent vomiting episodes (4-6 per week) containing undigested food particles. These would occur typically within 5-10 minutes of a meal, with no preceding nausea. Patient would have her meal again after the vomiting. Patient's family consulted physicians who provided symptomatic management. Parents asked her to stay at home and take leave from school.

Patient had menarche after nearly two months of the onset of vomiting, but after only three cycles, there was amenorrhea. Patient appeared to be occasionally worried of her weight or appearance and had asked her sister-in-law a few times if she has gained any weight, but she could be reassured and there is no history of excessive or frequent expressed concern. There is no report of voluntary starvation or excessive exercise. For next six months, she has been taking meals in reasonable quantity (would resume meal after post-prandial vomiting episode), maintained weight, continued to attend school and tuition, had adequate self care was adequate and would help mother in the household chores.

Around 6 months back, vomiting further increased and would occur at any time with no relation to meals. More often than not, such episodes were precipitated by her brother's comments or father's remarks. Patient reported being scared of getting poor marks and feeling ashamed and took permission to not appear in examination .She was again admitted under gastroenterology and subsequently, referred for psychiatric evaluation but family members refused. After discharge, the child reported having thoughts of being severely ill and that she may not ever get well. She would appear sad and tired. Perturbed, parents finally sought a consultation at the Out-patient clinic, Department of Psychiatry, AIIMS, New Delhi.

There is no history of voluntary starvation, no overt expression of being fat or weight gain, no involvement in exercise or binge eating. There is no history of unresponsive spells, pervasive sadness of mood, anhedonia, death wishes, suicidal ideation. There is no known medical illness.

Patient is youngest of six siblings (4 brothers, 2 sisters). Her mother is a housewife who has occasional dissociative episodes for past 10 years precipitated by stressors. The birth, development and early childhood history is unremarkable. Her academic performance has ranged between average to below average. Premorbid temperament suggests a difficult temperament.

General physical and systemic examination revealed no abnormality. Even on specific questioning, she was guarded and denied any distress with symptoms or any familial or school stressors,

or any resultant distress. Higher mental functions were intact. Psychological assessment was carried out in three sessions (each lasting 45-60 minutes) and has been tabulated (Table 1).

Case 2

Ms M, 15 years, female, student of Class X, belongs to urban, Hindu Joint family who presented with persistent vomiting since past three years with fluctuating course.

Patient used to be a topper in her class, but three years back, she obtained IIIrd position in her midterm examinations, after which she was seen to be disappointed and cry. The patient was reassured by family members, however in the ensuing months, patient started to study harder citing a few new entrants in the class. Patient was constantly preoccupied about getting her first rank back. The overall performance of the patient was same as before. She would score 19 out of 20 and would lag behind the new class topers by ½ to 1 mark. The patient still felt disappointed. Gradually, the class reports informed parents about patient's misbehavior with her competitors. Since the commencement of new academic year, the patient would start self-study as soon she was back from school and would continue it without any breaks. Gradually, the patient would not tolerate any delay in meals being prepared and would take the packaged food from market to save time. She would not let mother warm the food, eating it cold to avoid wasting time, or would want to consume market packaged food to avoid spending time with family at dinner table. The parents gave in to her demands at all times.

It was observed that her mood was becoming more irritable and she was more sensitive to comments from family members. When patient again scored a few marks less than the topper, she cried for long and reported of headache. This was followed by vomiting for the first time, followed by cramps in stomach. After few hours, patient was given biscuits and juice. Within 10 minutes, the patient had nausea and vomiting. Vomiting continued for few hours and patient was admitted to a local hospital where she was treated symptomatically. In IXth class, the patient further increased her efforts at studies and became more habitual replacing meals cooked at home with eating outside. However, the child would be asymptomatic throughout this period until the results of quarterly/term exams were declared. After that, the patient started having persistent vomiting. The usual pattern was appearance of ulcers in mouth few days prior to vomiting. Vomiting would be preceded by headache that continued for 6-7 hours, which was followed by vomiting. The vomitus would contain food particles at first. The patient reported experiencing nausea, churning sensation in stomach and vomiting. The pattern would occur in a cyclic manner within a gap of 8-10 minutes. On occasions, pre and post examinations the patient was having vomiting from 8 am in morning till 10 pm in the night with gap of 2-3 days. In between the days, when she was not vomiting, the patient would seem weak but could carried out studies. The patient was still able to secure IInd position in her class. During this phase the patient would appear worried about her academic performance, was irritable, she would take less part in social interaction, preferred to take her meals alone, was not playing with her cousins. On enquiry the patient did not report decreased interest in the above activities however reported preoccupation with studies and conserving time. No changes in weight were reported. A consultation with gastroenterology department, AIIMS, New Delhi revealed no organic cause, and the patient was referred to the Department of Psychiatry for management.

There is no history of psychiatric illness in family. No conflicts were reported. The patient's birth and developmental history is unremarkable. The patient attained menarche at the age of 15 years and has been having regular menses. The premorbid temperament is slow to warmup. Psychological test findings, done over three sessions, have been tabulated (Table 1).

Case 3

Ms R is a 13 years old, female, student of class VIII, belonging to rural, Muslim family, of lower socioeconomic status, presented with persistent vomiting for a period of 1.5years. The onset was insidious with a fluctuating course.

Patient was maintaining well until 1.5 years back and a below average student in her class when she was scolded by her teacher for not completing her homework. The patient was made to stand outside the class for half an hour. Patient reported feeling dizzy and nauseated after a while. On noticing her discomfort, the patient was sent back to her house. In the same week, the patient reported symptoms of lightheadedness, churning sensation in stomach and nausea during English period. Gradually, the patient started experiencing these symptoms frequently and more often during school hours. On one occasion post lunch, the patient had nausea followed by vomiting. The patient was given leave for that day. Following these episodes, the patient's mother did not send her to school for a week. After a week's time, the patient attended school and realized that she was lagging behind in studies. Patient reported feeling worried. On the day of a test, the patient had vomiting in the morning before starting for school, and she was made to skip school for another week. As she expressed worries related to loss at academics, her elder brother volunteered to teach her at home. It was noticed that patient would vomit whenever her brother would scold her, gradually she would vomit at the sight of any books, including Quran. As a result the patient stopped going to school. She though expressed interest in studies but reported could not do so. The informant reported that patient was sent to stay at her aunt's house for a period of 2 weeks during which time she was symptom-free. However, the vomiting resumed after coming back with patient having two to three episodes of vomiting in a day. She was referred to the Department of Psychiatry for evaluation and management. There were no mood symptoms, no body image concerns, no binging or purging episodes and no persistent pervasive worries. Patient is 2nd in order among three siblings. Her father expired four years back due to cardiac arrest and her mother is a housewife. There is no history of psychiatric illness in family. No conflicts were reported in the family. The patient's birth and developmental history is unremarkable. The patient attained menarche at the age of 13 years and has been having regular menses. The premorbid temperament is slow to warm up.

General physical and systemic examination revealed no abnormality. Affect was euthymic. Psychological assessment was carried out in three sessions and findings are shown in Table 1.

Discussion

This paper discusses the clinical and psychological profile of a series of cases with psychogenic vomiting, raising certain diagnostic and nosological issues with regard to this clinical entity in the current psychiatric classificatory system. The paper attempts to add to the few existing reports discussing issues regarding vomiting of psychogenic origin.

All patients in this series were female, in the adolescent age group (13-15 years) with recurrent vomiting as the chief complaint.

This profile is mostly in consonance with earlier studies reporting psychogenic vomiting in the younger age groups [7,8], with an onset as early as in childhood. Female preponderance has also been noted [9].

Two distinct patterns of vomiting can be discerned from the cases described above. Cases 1 and 3 had vomiting on a daily basis, with 4-5 episodes occurring in a day, separated by only a brief interval. This pattern resembles the continuous vomiting pattern as described by Muraoka and coauthors [10]. Case 2 presented with an exacerbation limited for 1-2 days followed by a completely asymptomatic period lasting for few days. Liao's description of the cyclic vomiting syndrome[7]with recurrent stereotypic episodes of severe nausea and vomiting separated by symptom-free intervals is closer to this presentation. Each of the discrete and self-limited episodes may individually vary in severity and duration.

Cases 2 and 3 reported the presence of nausea, churning sensation or cramps in stomach preceding the vomiting episodes. Personal distress was remarkably *absent* in all three cases for most part of the illness. The symptomatic management by a physician could bring short lasting relief only, and gradually, the frequency of vomiting, and associated dysfunction progressed over time.

In all three cases, psychogenic vomiting appears to have been precipitated by stress (academic) in terms of temporal relationship. Student stress is an emerging trend in adolescent health especially in Asian countries with more girls reporting perceived academic pressure, stress due to academic aspirations, fear of failure [8,11]. Interestingly, going back to school was a triggering event in nearly half of the children with cyclic vomiting [7]. Academic achievement pressure often precipitates internalizing problems among youth. In these three cases, critical remarks by significant others and lower-than expected academic performance/high self-expectations were important maintaining factor. Besides, vomiting as a somatic symptom is liable to raise the parental concern; thereby, leading to increased attention and avoidance of academic pressure and absenteeism.

The current cases raise some pertinent nosological issues. In the existing psychiatric nosology, there is no definite criterion for psychogenic vomiting. It appears as an inclusion term under F50.5 Vomiting associated with other psychological disturbances in ICD-10 [12]. However, all three cases were assessed carefully from the perspective of eating disorders. None of the cases expressed any concern over body image over the course of illness and management. Similarly, behaviors suggestive of restriction on food/diet, fear of weight gain, excessive exercise, self-induced vomiting were not significantly observed in any of the cases. Further, no significant change in weight was reported in spite of repeated vomiting in any of the three cases. Psychogenic vomiting might warrant recognition as an entity independent from eating disorders. As yet it does not find a place in the classificatory system perhaps because the symptomatology is varied with far too few reports discussing the psychogenic vomiting dis-associated from eating disorders. In DSM-5, it gets subsumed under F 98.21 Rumination Syndrome in DSM 5 [13], where it completely looses the association with psychological factors core at the origin of the disorder.

Vomiting, especially post-prandial irregular vomiting, has also been reported to be associated with depression, and mixed anxiety and depressive disorder [10,14]. Two of the cases, reported depressed affect secondary to increase in vomiting. Case 2 reported irritability and decreased interest in past six months. None of them, however, met the criteria for a syndromal depression or anxiety disorder.

The 'emesis' can be understood as the somatic manifestation of the internal conflict which serves as the primary gain to the patients [15-17]. In cases 1 and 3, the reduction in critical remarks, absenteeism from school, increased attention and gratification of demands were the secondary gains. The lack of concern or distress about the vomiting noted in the patients was also previously reported by Wruble et al [17]. It is important to note here that the psychological mechanisms underlying psychogenic vomiting are therefore closer to somatoform disorders rather than eating disorders.

The cases presented here, however, appear to differ from eating disorders (where psychogenic vomiting is currently subsumed) because of clear temporal association with stress, alleviation of symptoms with stress management skills, no dietary restrictions or body image distortions or weight concerns and absence of self induction of vomiting. Going by Rubin and Guze's criteria [18], psychogenic vomiting has distinct clinical features, similar findings on psychological assessments, exclusion of symptoms of eating disorders, common etiological variables, which mandates distinction of psychogenic vomiting in the diagnostic classification system. Further, there was a homogenous response to the non-pharmacological treatment, which was the mainstay of management and involved the use of strategies such as ABC charting, parent training, relaxation skills, stress management and cognitive restructuring. Having said that, this phenomenon should also be explored from a 'functional gastroenterology' perspective, which may provide further insights on the pathophysiological mechanisms.

Conclusion

To conclude, this paper describe the phenomenon of psychogenic vomiting in three cases seen in a tertiary care hospital setting There is a paucity of literature emphasizing psychological and psychiatric perspectives, and given the clinical presentation in these cases, vomiting associated with psychological factors as a solitary symptom needs further attention.

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