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Case Report Open Access

Young Female with Recurrent Postprandial Vomiting for One and a Half Years

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Abstract

Functional vomiting (FV) is considered as recurrent, unexplained vomiting lacking an organic basis at least once per week and not cyclical. Although functional vomiting is a rare disorder and has been under-investigated, it has been increasingly recognized that it is a serious threat to people's life quality. There have been many papers on how to treat functional vomiting, and agreements have been made that combined treatments on the base of improving nutrition status and maintaining spiritual support could be useful. We report the case of a young female with recurrent postprandial vomiting for one and a half years, who was diagnosed as functional vomiting. The treatment strategies were as follows: to have more meals a day but less food each time, to receive antidepressant, prokinetic agents and cognitive behavioral therapy. During the follow-up, the patient gets better after treatment, providing a vital evidence for further treatment.

Keywords: Functional vomiting; Mental disorders; Treatment; Antidepressant

Abbreviations:

FV: Functional Vomiting; GI: Gastrointestinal; BMI: Body Mass Index; CRP: C-Reactive Protein; ESR: Erythrocyte Sedimentation Rate; GE Gastric Emptying; GITT: Gastrointestinal Transit Time; ECG: Electrogastrogram; ENA: Extractable Nuclear Antigen; HAMA: Hamilton Anxiety Scale; HAMD: Hamilton Depression Scale; IBS: Irritable Bowel Syndrome

Introduction

FV is considered as recurrent, unexplained vomiting lacking an organic basis at least once per week and not cyclical [1]. Although FV is a rare disorder and has been under-investigated, it has been increasingly recognized a serious threat to life quality [2]. Besides, it has been also recognized that mental disorders could cause vomiting alone or accompany with it [3].

Case Report

A young female patient, who was 21 years old, came to GI department of Tianjin medical university general hospital because of recurrent postprandial vomiting for 1 and a half year. One year ago, with no reason, she started to vomit gastric contents after eating. It usually started 10-30 mins after eating and it happened frequently (from several times a week to several times a day). The gastric contents smelled bitterness with no abiding food or fecal odor. Gastrectasia and gastric pattern was obvious before vomiting and disappeared after vomiting. During this period, she had no headache, no bellyache or fever.

In the past years, she went to the local hospital and had many imaging examination: the upper gastrointestinal contrast examination showed mild ptosis of the stomach and delayed gastric emptying; gastroscopy found no signs of obstructive disease; and no abnormality could be found in the enhanced upper abdominal CT scan and the CT scan of the head. Except that, the thyroid function was normal. In this period, domperidonetabiets (10 mg tid) and Vitamin B12 (25 μg tid) were administered, but didn't work well. Since onset, the patient felt listless. Though the appetite was normal, the body weight lost about 10 kg. In particular, the patient suffered from amenorrhea (the sex hormones of the patient was normal).

Physical examination

The vital signs were stable, she was emaciated. BMI was 14.80 kg^2/m^2 (the normal range was 18.5-23 kg^2/m^2). The abdomen was soft and no gastric pattern or peristaltic wave could be found. Bowel sounds were normal. No shifting dullness was seen. And no tenderness or palpable mass could be felt. The liver could be touched 2 cm below the right costal, soft and with no tenderness. All the other examinations were normal.

Analysis

The prominent symptoms of the patient were recurrent vomiting after eating and marasmus which could not be simply explained by mild ptosis of the stomach. In the first place, the digestive organic disease (such as liver, gallbladder, pancreases diseases, especially for obstructive diseases) should be considered. But there was no evidence of all these organic diseases. Since history of drug abuse, toxin exposure or epilepsy disease was negative, it was little possibility that the symptom correlated with these reasons. Apart from these diseases, the functional disease of digestive system and psychiosis could also cause vomiting.

Local hospital did pretty well in detecting organic diseases which was negative, so the functional disease and psychiosis would be the focal point after admission. The amenorrhea happened after vomiting, so it was probably secondary. Consequently, more advanced examinations were done after admission. The routine tests showed she had mild anemia the lowest Hgb was 109 g/L, normocytic anemia. Tests of the liver and kidney functions showed normal findings. The

complements, CRP, ESR, immunofixation electrophoresis, protein electrophoresis, autoantibody, ENA, antinuclear antibody and thyroid function were all at normal level. Gastroscopy and the urinary ultrasound were negative.

The possibility of functional digestive disease such as gastroparesis, intestinal pseudo-obstruction or mental disorder increased. More examinations on the digestive function were done to explore the GI function. The elimination percentage was 0% (normally ≧90%) after 5 hours of GE and 0% (normally 90%) after 48 hours of GITT test. Psychological state was also evaluated, and she was diagnosed with severe anxiety and depression (the depressive state (she got 17 points in HAMA; 18 points in HAMD)).

The final diagnosis was functional vomiting with anxiety and depressive state. The medical orders were as follows: to have more meals a day but less food at each, to receive antidepressant (Mirtazapine 15mg qn), gastric motility drugs (Itopride Hydrochloride Tablets 50 mg tid) and cognitive behavioral therapy. Currently, the patient who returns once a month has been treated for 1 year and gets better (vomiting from several times a day to several times a month) during this year.

Discussion

Vomiting is a reaction that ejects matter from the stomach through the mouth when the vomiting center receives direct or indirect stimulus. The causes of vomiting are organic diseases, drug and toxin exposure, infection and epilepsy. The organic disease should be the priority of chronic vomiting. Apart from it, mental disorder and functional digestive disease can also cause vomiting [4]. When there is no sign of organic disease, the mental disorder and functional digestive disease should be taken into consideration. For those emaciated patients who vomited after eating, superior mesenteric artery syndrome was another possibility.

In this case, the vomiting appeared first and the horizontal segment of duodenum was not in compression through upper gastrointestinal contrast, so there is little possibility of this disease. After excluding organic diseases by further history taken, physical examinations and advanced examinations, we finally focused on the functional digestive diseases and/or mental disorder. There were a lot of functional digestive diseases (such as gastroparesis, intestinal pseudo-obstruction, functional dyspepsia, functional vomiting, rumination syndrome, anorexia nervosa, bulimia nervosa and irritable bowel syndrome) which could cause vomiting. Further differentiation should be done next.

As we all know, gastroparesis can be a secondary disease of many systemic diseases. The vomiting happens several hours after eating. Symptoms associated with delayed gastric emptying include nausea, vomiting, abdominal bloating and early satiety. The electrogastrogram (EGG) shows low motility of the stomach and for most of the times, eating could not improve the motility [5]. Chronic intestinal pseudo-obstruction is a condition with symptoms like those caused by a bowel obstruction. An abdomen X-ray could show dilated loops of bowel and air-fluid levels. But no evidence of mechanical obstruction could be found. Upper gastrointestinal manometry could find neurogenic and myogenic injuries [6]. What is more, functional dyspepsia has some clinical manifestations including epigastric pain, burning or postprandial fullness. Symptoms of IBS include the changes in the frequency of defecation and the character of the stool. Neither IBS nor functional dyspepsia mainly causes vomiting. Rumination syndrome is characterized by effortless and immediate regurgitation of most meals, and there is no odor with the vomit. Anorexia nervosa is characterized by low body weight, inappropriate eating habits, obsession with having a thin figure, and the fear of gaining weight. The vomiting in bulimia nervosa is self-induced. All these functional digestive diseases mentioned above did not fit in our case.

According to the Rome III consensus [7], functional vomiting should contain all the following factors: (1) on average, 1 or more episodes of vomiting per week; (2) absence of criteria for an eating disorder, rumination or major psychiatric disease according to Diagnostic and Statistical Manual of Mental Disorders, fourth edition (DSM-IV) (3) absence of self-induced vomiting and chronic cannabinoid use, and absence of abnormalities in the central nervous system or metabolic diseases to explain the recurrent vomiting. Criteria fulfilled for the past 3 months, with symptom onset at least 6 months before diagnosis. Finally, this patient who accord with the criteria mentioned above was diagnosed as FV.

On the other hand, mental disorders can cause vomiting alone or accompanied with FV. A prior research found that over 80% of functional vomiting coexist with mental disorders (anxiety and/or depression, with a higher percentage (72.2%) of depression). And anxiety and depression could coexist in about 40% of the patients [3].

For treatment, firstly, the agreement has been made that combined treatments on the base of improving nutrition status and maintaining spiritual support would be beneficial. To improve the patients' nutrition status, they are suggested to have more meals a day but less food at each and take some composite nutrition supplementations if necessary. If the patient cannot eat from mouth, jejunal nutrition may be useful. Secondly, many anxiolytic and antidepressant have been used in treating functional gastrointestinal disease, although the clinical researches on treating functional vomiting are rare. Prokinetic agents can also be useful, if the patient has gastric hypomotility. However, the value of antiemetic drug is limited in treating functional vomiting [4]. Thirdly, it has been noticed that most of symptoms could be controlled by the patients themselves (the patient could hold back the vomit if he tried) [8]. So, it is suggested that the behaviour therapy may be effective. Finally, it is also reported that gastric electrical stimulation may be effective in the treatment of functional vomiting [9]. In a word, more work still need to be done to prove these statements.

Currently, the patient in this case gets better after treatment during the follow up, providing a vital evidence for the combination of prokinetic agent and anti-anxiety/depression drug with behavior therapy in the treatment of FV.

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