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Evaluation of The Vomiting Child

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Abstract

The interpretation and analysis of symptoms related to eating disorders must have a careful and stepwise approach in children and adolescents before assigning a psychiatric diagnosis. Organic causes should be ruled out considering the risk of delayed and improper treatment. Patients with eating disorders must meet specific criteria, even though vomiting is a relevant symptom of some eating disorders, it needs to be considered in the context of the patient's thoughts and feelings, the most likely organic causes of that symptom, and the physician´s criteria. We present four cases of initial inaccurate psychiatric diagnosis in patients who had a surgical condition.

Abbreviations:

ESP : Eating Disorder Screen for Primary Care Questionnaire

MRI : Magnetic Resonance Imaging

SCOFF : Sick Control One Stone Fat Food Questionnaire

Introduction

Health and disease patterns and the prevalence of pathologies classified as psychiatric disorders in children have changed in the last decade [1]. Approximately one in five children has or ever had a severely debilitating mental condition in their lives[2]. Eating disorders are important in the pediatric population as they have a high social impact and carry a risk of severe nutritional deficiencies. The clinical presentation and diagnostic criteria for some of these disorders are well described [3], but children will frequently require a multidisciplinary approach.

It is essential to rule out organic causes before determining that the patient has a psychiatric condition. There may be a delay in the diagnosis and treatment of some basic functional or anatomic surgical pathology if the patient has an incorrect psychiatric diagnosis. Errors in the diagnostic process of eating disorders may overlook other illnesses that occur with similar symptoms such as vomiting, weight loss, fatigue, or abdominal pain.

We present four patients who had a diagnosis of psychiatric illness and a surgical pathology was subsequently documented as the cause of their present illness. The aim of this article is to alert primary care physicians and pediatricians about possible flaws in the diagnostic process of vomiting children and adolescents.

Patient Presentation

Case 1: Malrotation

We evaluated a five-year-old male for cyclic vomit. The patient had multiple consults to the emergency department since he was one week of age due to vomit, initially alimentary and recently of biliary content. At age 18 months, he started having intermittent abdominal pain and vomit and required admission for dehydration on several occasions. A psychiatric consult was ordered due to familial dysfunction. The psychiatrist found no evidence of stressors or other triggers to support the diagnosis of cyclic vomit.

A nutritional evaluation demonstrated stunting. Diagnostic tests were normal including urinalysis, cerebral Magnetic Resonance Imaging (MRI), Upper Gastrointestinal Endoscopy, Colonoscopy, and Abdominal Computerized Tomography. The patient underwent an exploratory laparoscopy. Intestinal malrotation was found and treated with a Ladd procedure. He had an uneventful recovery. On postoperative control, he gained weight and did not have new episodes of vomit.

Case 2: Stenosing Crohn's Disease

A fourteen-year-old female was admitted for multidisciplinary treatment of Anorexia Nervosa. She had a two-month history

of abdominal distention, colic, postprandial nausea, vomiting, epigastric pain, pyrosis, hiccups, and constipation. Her symptoms worsened in the last 20 days when she lost considerable weight and developed acute malnutrition.

During the psychiatric evaluation, we did not identify a purgative conduct, restrictive eating, dysmorphophobias, or any alterations in the family or school to support the diagnosis of anorexia nervosa. She had a palpable mass in the lower abdomen. A surgical consult was ordered to rule out mechanical bowel obstruction.

Diagnostic images showed a generalized dilation of small bowel loops, slow intestinal transit, and a stenosis that did not allow passage of contrast to the colon. The patient underwent diagnostic laparoscopy and resection of 50 cm of jejunum. The histologic findings confirmed Crohn's disease. The postoperative course was uneventful, and Anorexia Nervosa was ruled out.

Case 3: Esophageal Achalasia

A twelve-year-old female was assessed for an eating and behavioral disorder consisting of an 18-month history of postprandial vomiting without other symptoms. The mother stated that the patient had performed two suicidal gestures; she was not doing well in school and had a bad temper with oppositional behavior. Her weight, height and hormonal studies were normal. An upper gastrointestinal series and endoscopy were performed, finding proximal esophageal dilation and food impaction in the lower third of the esophagus. Achalasia was confirmed, and she underwent laparoscopic Heller myotomy. On postoperative controls, the patient still had mild dysphagia due to her disease. An eating disorder was ruled out, and the behavioral issues improved with psychotherapy.

Case 4: Pituitary Tumor

We admitted an eleven-year-old female with a possible diagnosis of anorexia nervosa. The patient had a history of vomit, headache, poor concentration, adynamia, and she lost 11kg in the last three months. Her mental exam showed altered fine motor skills, she was hypotonic and anergic, anhedonic, and sad affect. During the examination, there were long gaps between questions and answers. The train of thought was logic, and there were no alterations in judgment or reasoning.

The patient lost six additional kilograms in the following six weeks. She had a restrictive eating behavior, and vomiting occurred within the hour following meals. There was no alteration in her self-image, the patient did not want to continue losing weight, and she did not fulfill all the criteria for Anorexia Nervosa. The endocrinologist identified papilledema and ordered a cerebral MRI, which revealed a pituitary tumor that was extracted by neurosurgery. After an uneventful recovery, the patient gained weight, and her other symptoms disappeared.

Discussion

We present four cases that had an incorrect psychiatric diagnosis made by the pediatrician, which led a delay in diagnosis and treatment of organic diseases.

Mental conditions are abstract entities not always recognized by the human senses or technological devices [4,5]. Psychopathology arises from a network of dynamic and complex interactions with multidirectional influence, and symptoms of psychiatric disease do not allow for a single pathophysiological and anatomical origin to be established yet [6]. These characteristics make psychopathological entities heterogeneous, particularly difficult to approach in children. Symptoms that suggest the presence of a mental illness should always be evaluated in context with other organic symptoms.

Even though it is challenging to make an accurate psychiatric diagnosis in children due to their limited clinical history and developmental differences, the diagnosis of mental pathologies in children has increased [7]. Careful and stepwise care in the pre-diagnostic stages of childhood emotional and behavioral problems can save many children the burden of a diagnostic label, unnecessary treatment, and medications.

Eating Disorders

Eating disorders are persistent alterations in the alimentary conduct which affect health or psychosocial functioning [8]. There are six types of eating disorders which are mutually exclusive according to their symptoms: anorexia nervosa, avoidant/restrictive food intake disorder, bulimia nervosa, pica, rumination disorder and binge-eating disorder [8].

In western cultures, negative self-image relating to weight affects many adolescents, and it results in restrictive symptoms similar to eating disorders. It is hard to establish such diagnosis in younger children when there is no motivation or association with a distorted self-image. Screening tools such as the "Eating Disorder Screen for Primary Care" (ESP) or the "Sick, Control, One stone, Fat, Food" (SCOFF) questionnaire can be used by physicians to identify patients with eating disorders [9,10,11]. Screening tools are valuable to orient the diagnostic process of children and adolescents.

Vomit as a Symptom of Surgical Pathology

The main symptom in the four patients was vomit, interpreted as an eating disorder in all cases. Green-colored vomit is a cardinal sign of intestinal obstruction in children [12]. The correct and timely diagnosis of gastrointestinal obstruction in children depends on an appropriate interpretation of signs and symptoms and performing adequate studies to confirm the diagnosis [13]. Mechanical obstruction of the digestive tract often needs surgery. Intestinal obstruction in pediatric patients may have an acute

onset or a chronic and insidious course with recurrent symptoms of partial or incomplete obstruction. More than half of patients with malrotation present in the first month of life with abdominal distention and vomit, or acute peritoneal signs due to midgut volvulus [13]. Patients who reach adolescence or adulthood without the diagnosis of malrotation usually have a worse outcome because the symptoms are not specific and physicians must actively search for the anomaly [13-15]. A study of 70 patients with a diagnosis of intestinal malrotation after neonatal age reported symptoms such as intermittent vomit, abdominal pain, anorexia, nausea, diarrhea, constipation, and stunting [14]. Case one of our series started having symptoms of malrotation since the neonatal period, and his physicians dismissed them for five years.

Imaging studies such as a plain abdominal film and a contrast study provide valuable information for the evaluation of a vomiting child. An abdominal x-ray allows for a quick diagnosis of the level of obstruction and may guide the clinician to perform further studies [13]. In case two, radiology was fundamental to demonstrate an anomaly of the small bowel and a transition zone that required surgery.

Esophageal achalasia is a chronic motility disorder that causes an alteration in peristalsis and relaxation of the lower esophageal sphincter, producing dysphagia in most cases, but it can also appear with vomiting, food impaction, cough and weight loss [16]. Achalasia is more frequent in males, and it is rare in childhood, rendering female adolescents prone to a late or incorrect diagnosis. On case three, the diagnosis of esophageal achalasia was delayed owing to behavioral issues that were addressed first.

Vomit is not always a sign of gastrointestinal disease. Primary intracranial tumors, which represent 25% of childhood cancer, may present this symptom. Patients with a recurrent headache and vomiting must be carefully evaluated. Other symptoms of primary intracranial tumors are seizures, endocrine or growth alterations, and a few patients may have focal neurologic deficits [17]. Clinicians must be alert and have high suspicion to make a timely intervention; the symptoms of central nervous system tumors usually worsen six months before the diagnosis [17]. Case four had a recent onset of a headache, vomit, and weight loss. Her symptoms were misinterpreted as an eating disorder, and this caused a delay in the diagnosis and treatment of cancer.

Conclusion

Vomiting is a cardinal symptom of several gastrointestinal diseases, primary intracranial tumors, and other conditions. Children and adolescents who present this symptom should be carefully evaluated to rule out organic disease before asking for a psychiatric consult. The diagnosis of eating disorders must meet specific criteria and vomiting is not the only symptom to evaluate.

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Table of Contents Summary: Vomiting is a cardinal symptom of numerous diseases. Children and adolescents should be carefully evaluated to rule out organic disease before assigning a psychiatric diagnosis.

Contributors' Statements:

Catalina Correa: Dr. Correa conceptualized and designed the study, reviewed and revised the initial manuscript and approved the final manuscript as submitted.

German Velez: Dr. Velez drafted the initial manuscript, and approved the final manuscript as submitted.

Luis Carlos Rincon and Roberto Chaskel: Drs. Rincon and Chaskel critically reviewed and revised the manuscript, and approved the final manuscript as submitted.

All authors approved the final manuscript as submitted and agree to be accountable for all aspects of the work.

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