Phagophobia: a case report

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Phagophobia is a form of psychogenic dysphagia. Although it is characterized by a fear and avoidance of swallowing food, fluids, or pills, physical examination and laboratory findings are normal. Here, we present a case of phagophobia, who at 13 years of age was brought to our hospital by his family because of his fear and avoidance of swallowing food and loss of weight. After psychiatric interview, the patient underwent an oral peripheral examination, stroboscopic laryngeal evaluation, the Bedside Swallow Evaluation, and the Modified Barium Swallow Study. His physical examination and all laboratory findings were normal. The management of this case included the combination of behavior therapy and a dysphagia management program. After approximately one month of utilizing these techniques, the case showed considerable improvement.

Key words: phagophobia, organic dysphagia, assessment, behavior therapy, dysphagia management program.

Phagophobia, a fear of swallowing, is a form of psychogenic dysphagia. It is characterized by various significant swallowing complaints with normal physical examination and laboratory findings. In the past, many authors used the term "choking phobia" to describe these patients[1]. However, choking phobia is a confusing term because patients often do not distinguish difficulties with bolus propulsion versus aspiration; they may refer to either problem as choking, whereas clinicians define choking as a symptom of aspiration. Therefore, Shapiro et al.[2] suggested the term "phagophobia", which is more suitable for such patients.

Phagophobic patients show fear and avoidance of swallowing food, fluids, or pills. It is recognized in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) as a specific phobia in the residual category (i.e., "other"), along with phobias of vomiting or contracting an illness[3]. Effects of phagophobia can include weight loss, avoidance of eating, and malnutrition. The prevalence of phagophobia is as yet unknown[1]. Case series are usually reported in the literature.

This article presents a child with phagophobia, including clinical features, diagnostic processing, and treatment techniques that proved helpful in symptom relief.

Case Report

The patient was a 13-year-old boy who reported a three-month history of phagophobia. His symptoms, which began whenever he started to eat, included a sensation of his throat tightening, a difficulty initiating swallow, a feeling that food would become stuck in his throat, and a fear of the food passing into the airway. He had never actually aspirated or been unable to pass the bolus. He ate only soft foods and liquids, had been chewing foods excessively and holding chewed food inside his mouth which he was unable to swallow, and had lost 4 kg over a three-month period prior to his first interview with the child psychiatrist. He had experienced having gum lodged in his throat approximately one year previously, and had witnessed his mother choke due to food lodged in her throat approximately three months ago.

At pretreatment and follow-up, the patient was administered the structured clinical interview by the child psychiatrist with M.I.N.I. (Mini International Neuropsychiatric Interview) Plus 5.0.0, the child and parent form[4]. The case did not meet the formal diagnostic criteria for any anxiety (including panic disorder, social phobia, separation anxiety disorder, obsessive compulsive disorder, acute or posttraumatic stress disorder)

or depressive disorder. The patient had stuttering, attention deficit hyperactivity disorder (attention-predominant type) and reading disorder. His intelligence quotient scores were 66 for verbal, 101 for performance, and 82 for total. He was being treated with methylphenidate for attention-deficit problems and speech therapy for his stuttering.

He was given an oral peripheral examination, the Bedside Swallow Evaluation, and Modified Barium Swallow Study (MBSS) of our clinic's management plan. An ear, nose and throat specialist completed a full stroboscopic evaluation of the vocal folds prior to the MBSS.

The physical examination results of his head and neck were normal. Structured oral peripheral examination included a thorough assessment of the oral cavity, including tongue strength and mobility, palatal elevation, and the Diadochokinetic Rate Protocol (Table I). Oral and speech apraxia were absent. In stroboscopic laryngeal evaluation by the ear, nose and throat specialist, indirect view of the larynx revealed that arytenoids were meeting in the midline. Vocal fold adduction had no closure pathology (i.e., bowing, polyps or paralysis).

In the Bedside Swallow Evaluation, he was given 5 ml x 5 liquids (cherry juice x 2, peach nectar x 2, and water x 1). As solids, he was given ½ slice of bread with edges removed, milk for dipping the bread, 1 piece of graham cracker, 1 small banana, and ½ cup fruit-flavored yogurt. Observations are given in Table II.

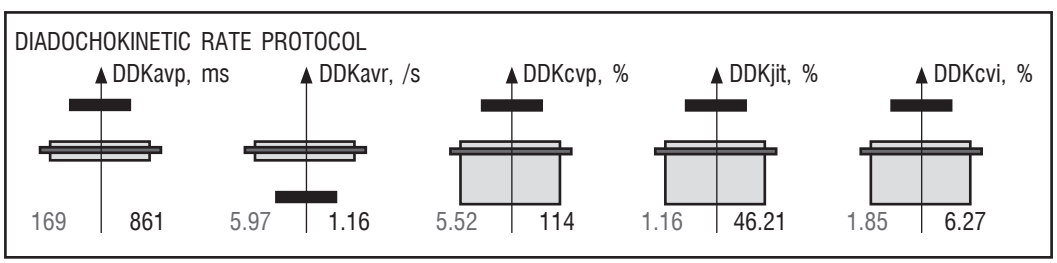
Table II. Physical Observation During Oral Intake

	Present	Absent
1. Watering of eyes?		X
2. Difficulty with breathing when eating?		X
3. Complaint of pain in his chest?		X
4. Feeling of choking?	X	
Liquids		X
Solids	X	
5. Facial grimace?		X
6. Change in his voice quality after swallows?		X
7. Coughing after swallows?		X
8. Change in his breathing pattern?		X
9. Difficulty with initiating swallowing?	X	
Liquids		X
Solids	X	
10. Feels full after 3-4 bites?	X	

Table I. Findings of the Oral Peripheral Examination

	Symmetry Present	Strength Absent	Range Present	Absent	Present	Absent
Tongue	X		X		X	
Labia	X		X		X	
Soft palate		X		X		X
Mandible		X		X		X

Diadochokinetic (DDK) Rate Protocol



	Value	Unit Norm (m)	SD*
Average DDK Period:	861	168.5	14.189
Average DDK Rate:	1.16	5.97	0.46
CV of DDK Rate:	114.18 5.52	1.02	
Perturbation of DDK Period:	46.21	1.16	0.25
CV of DDK Period:	6.27	1.85	0.69
s/z Ratio:	14.7 s/ 16.3 s		
/ah/Phonation time:	17 s		

*Standard Deviation. CV: Coefficient of variation.

He next underwent the MBSS, and due to his fear of swallowing solids, it was completed with thin and thick liquid consistency opaque contrast matter (3 ml, 5 ml of each at anterior-posterior and lateral positions). MBSS result was normal (Fig. 1). Because initial history, physical examination, and barium swallow study findings were all normal, these tests were not repeated.

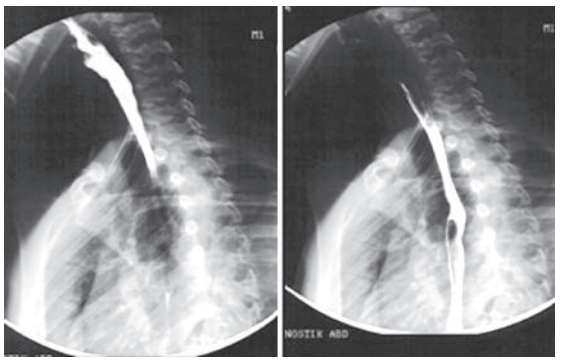


Fig. 1. Two consecutive sections of the bolus passage in our case during Modified Barium Swallow Study (MBSS).

The management of this case included combination of behavior management and the dysphagia management program, which consisted of bolus adjustments directed to positioning and exercises. The dysphagia management program included the following schedule: stage I, full liquids (thin, nectar and honey consistency); stage II, liquids with pureed solids; stage III, thin liquids with soft mechanical solids; stage IV, restricted solids, and stage V, no restriction of any food.

He was seen three times per week for the initial two weeks with stage I and at stage II, bolus combination was given in a casual picnic-like environment. Oral-motor-range exercises were completed with the focus on the soft palate and tongue movements before he started his actual eating of food. Liquids shakes, prepared according to the nutritionist's directives for his body's needs, were the main source of nutrition initially. A sample shake consisted of a cup of milk, one tablespoon of peanut butter, one tablespoon of honey, one banana, and one scoop of vanilla ice-cream or yoghurt.

After the first two stages were completed, relaxation exercises, breathing support exercises and functional coughing exercises were introduced. The focus of the relaxation exercises were to tense and relax the facial muscles, as in the sample "purse your lips and relax your lips". Coordination of breathing and swallowing seemed to be the most problematic for advancing solid intake. Breathing pattern consisted of short and shallow breaths which enabled the patient to sustain the deglutition apnea (i.e., ability to close vocal folds totally 3-8 seconds while swallowing). Thus, breathing support exercises with and without humming were introduced. Once the deglutition apnea was established, the control of the vocal folds for functional cough was needed in case a foreign body indeed entered the trachea. Coughing exercises were aimed to strengthen those muscles (lateral constrictors, hyoid elevators, etc.) with abdominal breathing support. Mechanical soft items were then introduced (i.e., banana, macaroni, and peaches, etc.). In two weeks' time he was able to start stage IV eating. He still has some hesitations regarding intake of certain solids (i.e., steak, chickpeas); however, he is now able to eat a full combination diet (including the edges of the bread which was the most difficult in his mind). He has gained 5 kg and is doing well eating independently.

Discussion

It is important that phagophobia as a psychogenic dysphagia be differentiated from organic dysphagia. Therefore, in our case we performed a detailed history-taking, physical examination, and barium swallow study to rule out organic disease. We obtained information about his dysphagia from him and his parents, including the sensation or actual occurrence of the bolus becoming stuck, and if so, what bolus consistency and what maneuvers were required to remove the bolus. Our case described the feeling that the bolus was stuck in his throat; however, when questioned, he acknowledged that the bolus does not actually become lodged. He therefore did not require maneuvers to move the bolus. In addition, findings of the barium swallow study and stroboscopic laryngeal evaluations were normal. Thus, our case was diagnosed as phagophobia. In contrast, organic (nonpsychogenic) dysphagia is secondary to problems with either bolus propulsion or aspiration. In the case of abnormal bolus propulsion, patients describe

the bolus as getting stuck; bolus passage either then occurs spontaneously after a varying time interval or requires maneuvers such as multiple liquid or dry swallows or even pharyngeal regurgitation to move the bolus retrograde into the oral cavity[1].

Patients with phagophobia may have underlying psychiatric symptoms, primarily related to anxiety and depression, but generally do not have a formal psychiatric diagnosis[5,6]. Phagophobia also requires differential diagnosis from some psychiatric disorders which may include swallowing dysfunction, such as conversion disorder, anorexia nervosa and bulimia nervosa. Some phagophobic patients also describe a foreign body sensation in the throat (globus pharyngeus) that is usually present at rest and is often unchanged or even ameliorated by a bolus swallow[2]. Globus is distinguished from phagophobia by perception of noninterference with the actual swallow. Some patients with conversion disorder, which is a somatoform disorder, may present globus; however, this is usually unrelated with actual swallow[7]. Conversion disorder was ruled out because our case did not get globus pharyngeus, moreover, a sensation of his throat tightening and a feeling that food became lodged in the throat were experienced only during meal time. Many phagophobic patients report weight loss secondary to decreased oral intake. Our case had lost 4 kg over a three-month period as well. However, unlike patients with the eating disorders anorexia nervosa and bulimia nervosa, phagophobics do not intentionally lose weight and are displeased with their changed body weight[8]. Similarly, phagophobics do not have a distorted body image; they perceive their shape and size accurately.

McNally[1] proposed that phagophobia is most often the result of a direct conditioning experience (e.g., choking food or pills). There is sometimes a precipitant to the swallowing difficulties, such as witnessing a choking incident, but this is not always the case. When an event has been witnessed, this is more likely to lead to a fear of aspiration in addition to a fear of not being able to move the bolus. Our case had a history of experiencing a choking event himself and of witnessing his mother choking.

No controlled trials have been conducted to evaluate treatments for phagophobia. However, a variety of case studies offer preliminary support for a diversity of treatment approaches. Although pharmacotherapy has been used, especially antipanic drugs, behavioral approaches are more common[1]. For example, Ball and Otto[9] used a treatment protocol consisting of psychoeducation, cognitive restructuring, aversion/distraction (i.e., pinching one's hand while chewing food) and in vivo exposure with three adult patients. The authors reported positive results in all three patients following 11 to 13 sessions. However, evidence for the efficacy of such treatments in children and adolescents is relatively lacking[10]. The management of our case was performed using the combination of behavior management and a dysphagia management program, because he was open to behavioral work to address his symptoms. After one month utilizing these techniques, the patient reported considerable progress. He noticed changes in several areas, including a significant reduction in his fear of eating and choking, and an ability to relax during a meal and to continue eating if he became tense. Follow-up of our case three to six months later revealed that he remained significantly symptom-free.

In summary, it is important that phagophobic patients are differentiated from those with organic (nonpsychogenic) dysphagia and other psychiatric disorders. Furthermore, these patients usually benefit from behavioral therapies.

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