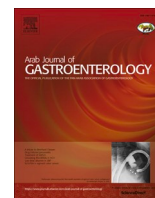




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## Case report

## Total esophageal food impaction in the era of the COVID-19 pandemic: a delayed presentation in a patient with Parkinson's disease



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## ABSTRACT

Total esophageal food impaction is extremely rare. We report a patient with Parkinsonism who presented with total dysphagia to solids and liquids and with inability to swallow her saliva of 3 days duration. She did not present sooner as she was afraid of contracting COVID-19 during hospitalization. Chest CT scan revealed total esophageal food impaction. Awake fiberoptic endotracheal intubation followed by EGD and clearance of the impacted food were performed. This patient illustrates esophageal involvement in Parkinson's disease, delayed presentation with an emergency in the COVID-19 era, and the multidisciplinary approach to minimize the risk of aspiration during endoscopy.

## Introduction

Esophageal food impaction is a common problem with an estimated annual incidence rate of 13 per 100,000 person-years. Multiple esophageal disorders have been strongly associated with food impaction. These include structural esophageal diseases such as Schatzki rings, peptic strictures, esophageal rings, cancer; and functional esophageal abnormalities such as achalasia and spastic dysmotility [1]. Additionally, eosinophilic esophagitis is being increasingly recognized as a major cause of esophageal food impaction especially in the younger population [2]. Regardless of the etiology, esophageal food impaction is considered a gastrointestinal (GI) emergency that requires immediate medical care. It has been reported that around 25% of patients with food impaction have spontaneous resolution of symptoms, while the rest will require intervention with medications, endoscopy, or far less commonly surgery [3]. Endoscopy should be done within 6–24 h, depending on whether the obstruction is partial or complete, in order to decrease the risk of complications such as perforation, obstruction and fistula formation, and to increase the probability of successful disimpaction [4]. The endoscopic intervention itself also carries its own set of complications including mucosal lacerations, bleeding, and aspiration pneumonia [5].

Although esophageal food bolus impaction is common, there are no reports on total esophageal food impaction or on its optimal management.

## Case report

A 79-year-old woman presented to our hospital with new onset dysphagia to solids and liquids, inability to tolerate any food intake or to swallow her saliva of 3 days duration. Prior to this episode, the patient denied having had any episodes of choking, dysphagia, or heartburn. The patient was known to have long standing Parkinson's disease, diabetes, hypertension, and hypothyroidism. Her list of medications included carbidopa-levodopa, metformin, amlodipine, and levothyroxine. The patient did not present immediately after onset of symptoms because of fear of contracting COVID-19 during hospitalization. Upon arrival, the patient was hemodynamically stable with BP = 144/73 mmHg, HR = 80/min, and her temperature was 36.3 °C. On physical exam, there was no evidence of neck swelling or crepitation. Chest CT scan showed a dilated esophagus along its entire length that is full of food residue (Fig. 1A and 1B) with no evidence of perforation. The patient was scheduled for urgent esophagogastroduodenoscopy (EGD). To minimize the risk of aspiration, awake fiberoptic intubation was performed followed by EGD, which showed large amounts of food residue extending from the upper esophageal sphincter to the gastroesophageal (GE) junction (Fig. 2). The impacted food was removed by the push technique, after ensuring that there was no distal esophageal obstruction. We used a polyp retriever as well as a through the scope balloon with subsequent clearance of the esophagus. No intrinsic esophageal pathology was found. The patient was monitored by the Anesthesia team and was given two doses of her anti-parkinsonian medication by

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nasogastric tube before attempting extubation. Subsequently the patient was extubated without any complications. She was kept on clear liquids for 24 h and then her diet was advanced to full fluids, which she tolerated well. A barium swallow showed a dilated atonic esophagus with decreased peristalsis and only intermittent opening of the distal esophageal sphincter (Fig. 3).

The patient did not consent for esophageal manometry and refused botulinum toxin injection. She was discharged on high-calorie, high-protein full fluid diet and she continues to do well up to today.

## Discussion

Esophageal food impaction is a GI emergency that requires endoscopic intervention on an emergent or urgent basis depending on the degree of obstruction [4]. In a recent review, Cha et al. looked at the safety of different sedation methods, namely conscious sedation, monitored anesthesia care, and general anesthesia (GA) in emergent endoscopic interventions. They found no difference in adverse event rates following endoscopic removal of foreign bodies. However, they classified impactions based on type (object versus food) rather than location and degree of obstruction [5]. Patients with complete obstruction who are unable to manage their secretions and those with proximal esophageal obstruction are at high risk of aspiration and require endotracheal intubation under GA. Our patient had complete total esophageal obstruction for which we decided to perform awake fiberoptic intubation followed by GA in order to decrease the risk of aspiration. As for the endoscopic techniques used, options include food extraction and advancement of the bolus into the stomach by the push technique. The latter is only deemed safe after inspection of the distal esophagus by passing the endoscope around the food bolus [4].

This is an unusual case of total esophageal obstruction manifesting as an achalasia-like syndrome in a patient with long-standing Parkinson's disease. GI disturbances nearly occur in all patients with Parkinson's disease, and they can involve all levels of the GI tract.

Esophageal involvement can present as oropharyngeal or esophageal dysphagia. Esophageal dysphagia is prevalent in around one third of patients with Parkinson's disease. Abnormalities identified include esophagogastric junction (EGJ) outflow obstruction, diffuse esophageal spasms, ineffective esophageal peristalsis, and fragmented peristalsis. Parkinson's disease can mimic achalasia in its clinical presentation and imaging. Diagnosis is made by high-resolution manometry with or without fluoroscopic imaging to look at the closing and opening of the

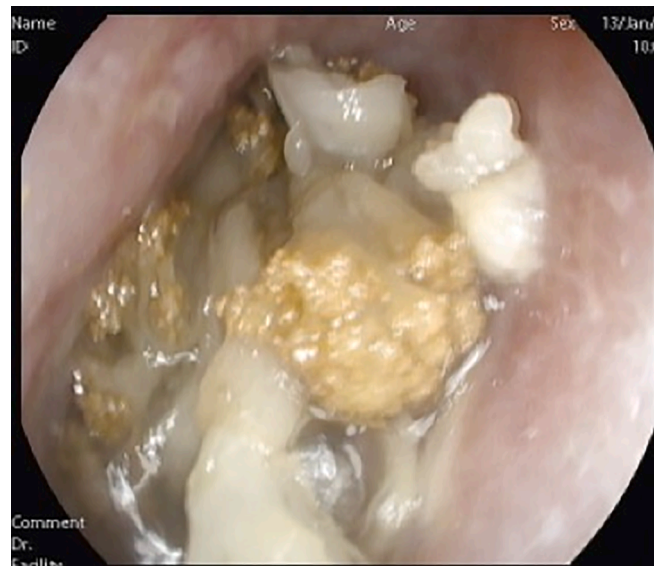


Fig. 2. Endoscopic photo of the esophageal inlet, showing solid food residue completely obstructing the esophagus.

esophagogastric junction and lower esophageal sphincter (LES). Botox injection in the distal esophagus at the LES is the only treatment that has shown promising, albeit temporary results [6].

This patient's condition was aggravated by delayed hospital presentation in the COVID-19 era. The multidisciplinary approach by gastroenterologists, anesthesiologist and neurologist was crucial to providing the best outcome to the patient.

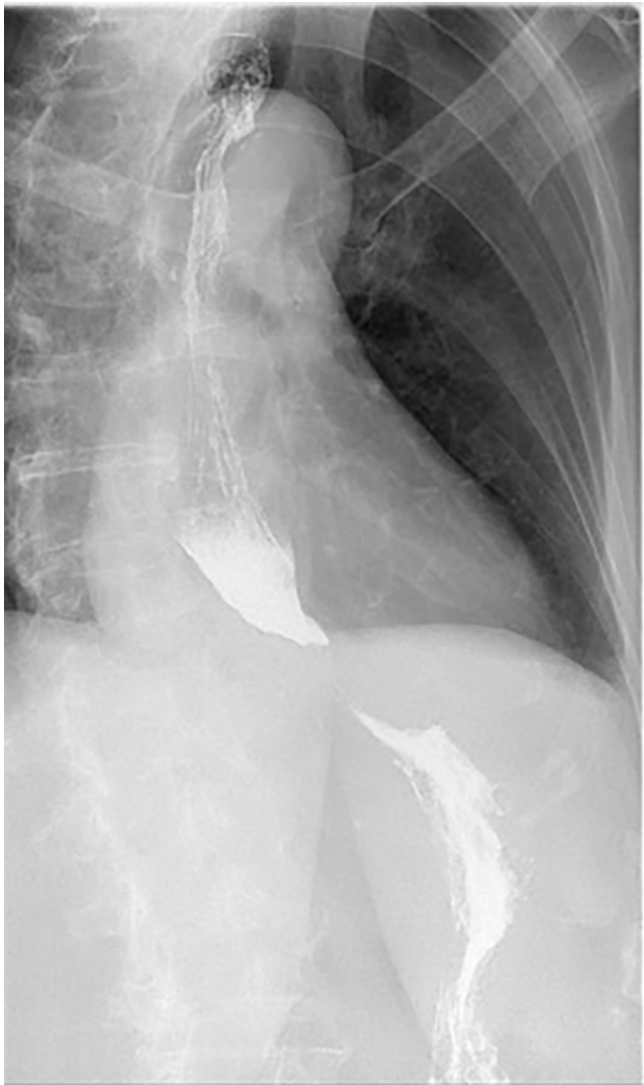
In conclusion, this case illustrates the severe esophageal motor abnormalities that may occur in patients with long standing Parkinson's disease. This has manifested as total esophageal food impaction that was aggravated by the delay in seeking medical care out of fear of contracting COVID-19. Furthermore, awake fiberoptic intubation followed by general anesthesia was essential to safely clearing the impaction and avoiding pulmonary aspiration in this patient.

## Ethical considerations

Our Institutional Review Board (IRB) does not require approval for



Fig. 1. 1A and 1B. Non-contrast computed tomography scan of the chest, showing a dilated esophagus that is full of food residue from the gastroesophageal junction all the way to the upper esophageal sphincter.



**Fig. 3.** Barium swallow showing a dilated esophagus and a bird beak like appearance of the lower esophageal sphincter, with incomplete emptying of the barium.

publication of case reports. Consent was obtained from the patient for

publishing this case report.

#### Sources of funding

None

#### Informed consent

Informed consent was obtained from the patient to publish this report.

#### Declaration of competing interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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