

A Novel Approach to Management of Esophageal Pill Impaction

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Abstract

A 26-year-old male presented with symptoms of acute esophageal obstruction immediately after swallowing an 800-mg ibuprofen tablet. Multiple attempts to extract the pill with a variety of traditional endoscopic retrieval devices were unsuccessful. We successfully destroyed the pill using a threaded-tip biliary stent retrieval device to drill a hole in the center of the pill, which allowed us to use a rat-tooth forceps to crush the pill. This case report demonstrates a novel use of this device in a challenging esophageal pill extraction.

Introduction

Esophageal foreign body impaction can be managed with a variety of standard endoscopic retrieval devices, but anatomic features and the nature of the foreign body can make successful extraction difficult or impossible with standard techniques. We present this case to demonstrate a novel approach to the management of a challenging esophageal pill impaction.

Case Report

A 26-year-old male presented with symptoms of acute esophageal obstruction immediately after swallowing an 800-mg ibuprofen tablet. He could not swallow oral secretions and complained of focal anterior neck pain. During an urgent upper endoscopy, we encountered a circular, hard pill tightly impacted at a mid-esophageal stricture. The esophagus had a narrow caliber and the diagnostic endoscope could only be advanced to a point just proximal to the pill (Figure 1A). Multiple attempts to extract the pill with a variety of traditional endoscopic retrieval devices, including rat-tooth forceps, polypectomy snare, retrieval net, biopsy forceps, and three-pronged grasper, were unsuccessful.

After consideration of management options for refractory esophageal impaction (including surgical referral), we chose to attempt to disrupt the pill with a 7 French threaded-tip Soehendra biliary stent retriever (Cook Medical, Winston-Salem, NC). The stent retriever was centered in the lumen and placed gently against the center of the pill (Figure 1B). Clockwise rotation of the threaded tip created a central defect within the pill matrix (Figure 1C), then we used the rat-tooth forceps to rapidly crush the remaining pill, working off the central defect (Figure 1D). After pulverizing the impacted pill, we observed an esophageal stricture 8 mm in diameter (Figure 2), which we traversed with a narrow caliber (5.5 mm) upper endoscope and completed the examination. The patient recovered uneventfully. The endoscopic appearance and biopsies of the esophagus were consistent with eosinophilic esophagitis, which subsequently required esophageal dilation for treatment.

Discussion

The biliary stent retrieval device (Figure 3) has a threaded tip designed to be advanced over a guidewire into a metal biliary stent to facilitate extraction.¹ Since its introduction, the device has been used for other purposes, such as expanding a hole in a metallic mesh stent for multiple stenting of a hilar biliary obstruction,² EUS-guided drainage of a pancreatic pseudocyst,³ dilating refractory pancreatic duct strictures,⁴ and dilating pancreaticojejunostomy

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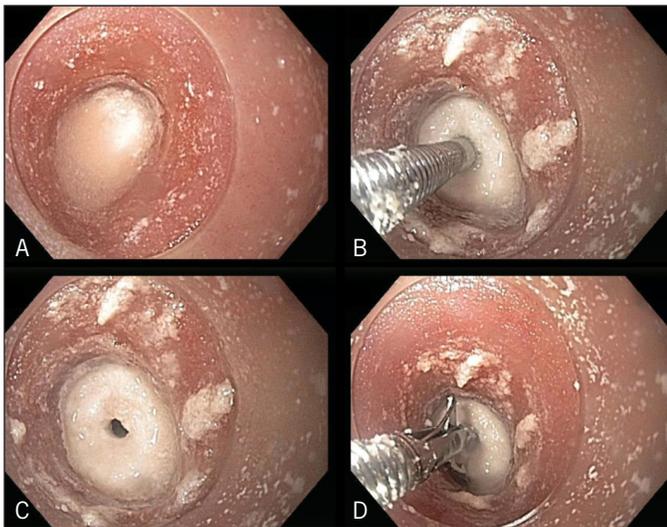


Figure 1. (A) Impacted pill encountered at 25 cm from the incisors. (B) A Soehendra threaded-tip biliary stent retrieval device was used to drill through the pill, (C) yielding a central defect. (D) A rat-tooth forceps was subsequently able to gain sufficient leverage to destroy the pill.

strictures.⁵ This is the first published case using the device for management of an esophageal pill impaction. The threaded tip may cut rapidly, so it is important to drill through the pill carefully, checking progress frequently lest the device damage the esophageal wall. This device does not use electrocautery. Once a hole is created in the center of the pill, standard devices such as the rat-tooth forceps used in this case have the necessary leverage to crush the pill easily.

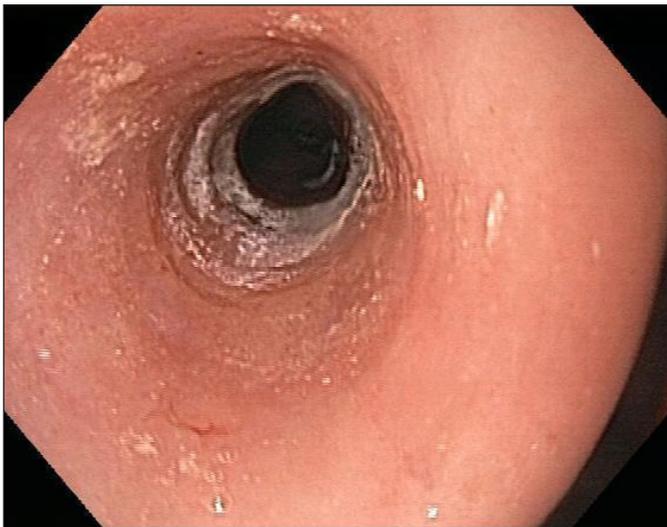


Figure 2. Endoscopic view of the esophageal stricture after destruction of the pill.

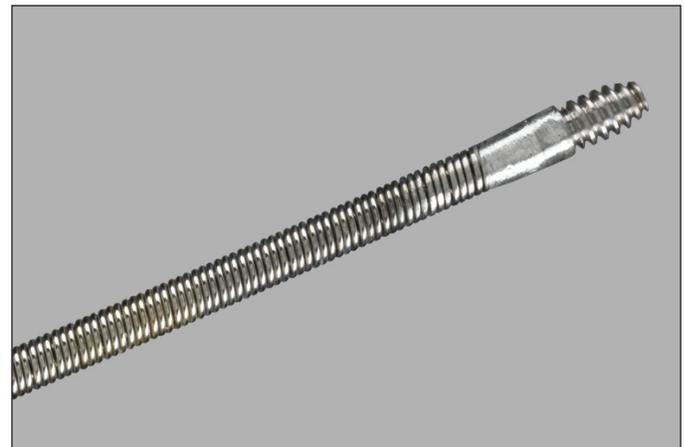


Figure 3. Soehendra threaded-tip biliary stent retrieval device. Image courtesy of Cook Medical.

When encountering an esophageal pill impaction refractory to extraction with standard endoscopic retrieval devices, endoscopists may consider utilizing a threaded-tip biliary stent retriever. Further studies would be required to determine the efficacy and safety of the stent retriever in the removal of a variety of impacted foreign bodies within the gastrointestinal tract.

Disclosures

Author contributions: BW Lacey was the primary author of the final manuscript and the article guarantor. S. Caufield, E. Lavery, and B. Partridge contributed to and edited the final manuscript.

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