Endoscopic Retrieval of a Broken Migrated Piece of Esophageal Metallic Stent Presenting as Pyloric Obstruction

Monika Jain, Gurwant Singh Lamba
Centre for Liver and Digestive Diseases, Maharaja Agrasen Hospital Punjabi Bagh, New Delhi, India

Abstract

Self-expandable metallic stents (SEMS) have been used for many years in the palliation of esophageal malignant dysphagia and tracheoesophageal fistulae. Esophageal stent migration is a recognized complication but fracture followed by migration is extremely rare complication. This is a report on an 80-year-old male patient with carcinoma of the esophagus, who was treated with a self-expandable metallic stent for palliation of dysphagia. Seven weeks after the procedure, patient developed recurrent vomiting. Esophagogastroduodenoscopy revealed that a 3-cm segment of distal end of stent had broken and migrated into the stomach and got impacted at pylorus while the rest of stent was still in place in the esophagus. The broken segment of the stent was extracted endoscopically without any complication. A lasso design stent was found to be very helpful in removing the broken piece. Within 4 weeks, patient suffered from dysphagia caused by the overgrowth of tumor and underwent insertion of new metal stent with relief of dysphagia. (J Dig Endosc 2010;1(3):153-4)

Key words: Esophageal carcinoma - Esophageal obstruction - Self-expanding metal stents - Stent fracture - Broken esophageal metal stent - Stent complication

Introduction

Self-expandable metallic stents have revolutionized the management of malignant dysphagia and tracheoesophageal fistulae. The major impact of these stents is the ease of insertion and the potential for fewer acute complications. Stent migration is one of the most recognized complications of metallic stents. Esophageal stent fracture occurs quite rarely, only a few cases are described in the literature. We present the case of an 80-year-old male who was diagnosed with esophageal cancer with lymph node metastasis and underwent placement of a self-expandable metallic stent with immediate relief of dysphagia. Within 7 weeks he reported with complaints of recurrent vomiting as a result of impaction of a 3-cm segment of stent which had broken and migrated from the distal end. The broken segment of stent was extracted endoscopically without any complication.

Case Report

An 80 year male presented to us with dysphagia and weight loss of three months duration. On investigations he was found to have well differentiated squamous cell carcinoma in mid esophagus with lymph node metastasis. A 16-cm fully covered metallic stent (Bonastent–Standard Sci. Tech. Inc. Seoul South Korea) was placed endoscopically under fluoroscopic guidance for relief of dysphagia. Seven weeks after the procedure, patient reported with complaints of recurrent vomiting. Esophagogastroduodenoscopy (EGD) showed that a long portion of stent was still in place in the esophagus and a 3-cm segment of distal end of stent had broken and migrated into the stomach and got impacted at pylorus. The broken piece of the stent was held by the lasso attached to it. The thread was then gently pulled which resulted in closer of the open end of the stent and it assumed a tapering conical shape. The stent piece was then gently pulled out of the stomach and brought out through the longer piece of stent in esophagus. As the intact length of the stent was fully covering the tumour the patient did not have...
any dysphagia and was discharged. He returned to the hospital 4 weeks after the removal of broken stent segment, suffering from dysphagia. An EGD showed tumor overgrowth at lower end of the stent resulting in luminal narrowing. A second 16-cm fully covered metallic stent (Bonastent–Standard Sci. Tech. Inc. Seoul South Korea) was placed through the first stent extending beyond the narrowing. Patient was successfully palliated for dysphagia and had no recurrence of symptoms or any other complication for next six months of follow up.

Discussion

Self expandable metallic stents are commonly used to palliate dysphagia in esophageal cancers. Common complications of stent placement include hemorrhage, chest pain, ulcerations, stent occlusion and migration. Stent fracture is a known but extremely rare complication of esophageal stent and has been described as isolated case reports. The likely cause of stent breakage include defective material used in manufacturing or thermal overstrain induced by laser application employed to treat tumor overgrowth.

Dogan and Egilmez reported a case of stent fracture. Another stent was placed inside the first stent and the broken piece was left in situ in stomach till the end of patient’s life. von Schonfeld reported a similar case where the stent had broken into three pieces. He could successfully remove the broken pieces from stomach although the procedure was difficult and took four hours. Schoefl et al reported two cases of stent fracture. The cause in one of the patient was thermal strain during laser application.

Extraction of broken segment is mandatory especially if it is associated with symptoms. Endoscopic removal of fractured and migrated segment has been reported, though may be time-consuming. In our case, it was technically easy to retrieve the broken segment because of inherent design of the stent which has a lasso thread at both ends which helps in collapsing the open end and thereby preventing impaction or injury during removal.

References


Source of support: Nil; Conflict of interest: none declared