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CLINICAL CASE REPORTS

Safe Endoscopic Removal of a Migrated Esophageal Stent Using a Protection Hood [☆]



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Abstract

Delayed esophageal metallic stent migration after a neo-adjuvant therapy of advanced esophageal cancer is a relatively frequent event, which is sometimes due to tumor response to chemotherapy.

Stent migration in the stomach is usually asymptomatic but it can cause potentially life-threatening complications as bowel obstruction or perforation.

Most gastric migrations can be managed endoscopically; however endoscopic stent removal could also be a risky procedure due to hemorrhage or esophageal perforation.

This case report describes a safe and quick endoscopic method to remove a migrated esophageal metallic stent from the stomach using a protection hood mounted on the tip of the endoscope.

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Video related to this article

Video related to this article can be found online at <http://dx.doi.org/10.1016/j.vjgien.2014.06.001>.

1. Case report

- In June 2013 a 71-year-old male patient with dysphagia and weight loss was referred to our Unit.
- An upper endoscopy showed a stenotic tumor of the distal esophagus (adenocarcinoma at the biopsies).
- EUS and CT-scan documented an advanced tumor with lymph nodes infiltration and a spleen metastasis (T3N1M1).
- An uncovered self expanding esophageal metallic stent was placed in order to relieve symptoms and improve oral food intake. No complications occurred during the procedure.

[☆]The terms of this license also apply to the corresponding video.

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- The patient underwent a neo-adjuvant chemotherapy.
- Four months later, a follow-up CT-scan was performed showing the stent migration in the gastric antrum (Figure 1). No radiological signs of perforation occurred. The patient had no symptoms.
- 24 h after the CT-scan, we performed an EGD to remove the stent.
- After endoscopic procedure no major complications occurred. Neoplastic tissue of the distal esophagus presented a mild self-limiting bleeding due to the stent extraction in the narrow lumen at the distal esophagus, although post-procedural lab tests did not show significant alterations.
- The patient was discharged six hours after the endoscopy and resumed his eating habits with no complications.

2. Technique

Esophagogastroduodenoscopy and esophageal stent removal.

3. Materials

- Endoscope: GIF-Q165, Olympus, Tokyo, Japan.
- Self-expanding non-covered metal stent (Ultraflex™ Esophageal NG Stent System, proximal release, length 15 cm, Boston Scientific, Natick, USA).
- Reusable alligator jaw grasping forceps, FG-7L-1; Olympus, Tokyo, Japan.
- Capuchon hood, Ref. AS0420000; ABS Bolton Medical, France.

4. Endoscopic procedure

- EGD with standard gastroscope under deep sedation with tracheal intubation to protect the airways.
- Visualization and grasping of the migrated esophageal stent in the stomach in order to verify that it is still removable.
- Extraction of the gastroscope and mounting of the foreign body hood protector on the tip of the



Figure 1 Computed tomographic scan shows migrated stent into the stomach (arrow).

gastroscope. Before re-intubating the patient, the hood is reflected back so that it does not interfere with view while it passes through the esophagus.

- Visualization of the stent in the gastric antrum and grasping of its proximal retrieval string with the alligator jaw grasping forceps.
- Gastroscope slow withdrawal to extract the stent.
- At the level of the cardias, the hood is mechanically pulled down over the stent.
- Further endoscopy to verify that no complications occurred during the extraction procedure.

5. Discussion

Delayed esophageal metallic stent migration after a neo-adjuvant therapy of esophageal cancer is a frequent (up to 40%) complication [1].

Migrated stent removal is recommended to avoid complications such as bleeding, bowel obstruction and perforation [2].

Most gastric migrations can be managed endoscopically; however endoscopic stent removal could also be a risky procedure due to hemorrhage or esophageal perforation [3,4].

In order to safely remove a migrated stent and prevent lacerations in the cardias or the upper esophageal sphincter, we used a foreign body hood protector.

The foreign body hood protector consists of a soft rubber bell-shaped hood which is placed on the tip of the gastroscope. At the beginning of the exam it is reflected back so that it does not interfere with the endoscopic view while passing through the esophagus. The proximal side of the hood is 8.3 mm in diameter; the elasticity of the material allows for easy mounting on the tip of the principal diagnostic and therapeutic gastroscopes. Its secure fixation is provided by an additional elastic band which is included in the kit.

The hood is 25 mm long and has a distal opening diameter of 40 mm thus allowing sufficient capacity to embrace the flanged end of metallic stents of various sizes.

After grasping the stent retrieval string with the alligator jaw grasping forceps the endoscope is withdrawn to extract the stent. At the level of the cardias, the hood is mechanically pulled down over the stent, protecting the esophagus from lacerations.

In the literature there are many different techniques for migrated stent removal [2,5-7] but only few cases reported the use of the “hood technique” [8].

We think that ours is a safer and quicker technique for removal of migrated stents compared to forceful extraction just by pulling the stent with a forceps.

6. Scripted voiceover

Voiceover text

The neoplastic stenosis is traversed with a standard gastroscope
 Migrated stent is identified in the body and grasped to assess whether it is still possible to remove it
 After mounting the hood protector on the tip, the gastroscope is reintroduced

Voiceover text

The proximal retrieval string of the stent is grasped with an alligator jaw grasping forceps

The gastroscopie is slowly withdrawn

As the lumen physiologically narrows down at the level of the cardias, the hood is mechanically rolled back covering the stent. The withdrawal of the stent continues slowly through the cancer and the upper esophageal sphincter encountering minimal resistance unlike standard technique

The stent is safely pulled out from the mouth

Upper endoscopy is performed in order to verify that no complications occurred during the extraction procedure.

Only a small amount of blood is seen but no major tears or damage of the esophageal wall

Conflict of interest

The authors have no conflict of interests to disclose.

Human and animal rights

The work described in this article has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for experiments involving humans.

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