

Rare Esophageal Migration of AXIOS Stent Used for Walled-off Pancreatic Necrosis Drainage

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ABSTRACT

The AXIOS stent (Boston Scientific, Marlborough, MA) is a novel lumen-apposing self-expandable metallic stent designed for enteric drainage of nonadherent lumens. Efficacy and safety of using the AXIOS stent for pancreatic fluid drainage have been consistently shown in several studies. Although it is less common with this novel stent, stent migration still may happen. We present a case of AXIOS stent migration into the esophagus.

INTRODUCTION

Pancreatic walled-off necrosis (WON) is a potential complication of pancreatitis. When indicated, WON drainage can be done surgically, percutaneously, or endoscopically.¹ Endoscopic ultrasound (EUS)-guided transmural drainage of WON is an efficacious, safe, and widely used therapeutic modality.¹ The AXIOS stent (Boston Scientific, Marlborough, MA) is a novel lumen-apposing stent designed for enteric drainage of nonadherent lumens (e.g., WON), and has been recently used for this purpose.² Efficacy and safety of AXIOS stent has consistently been shown in several studies.³

CASE REPORT

A 42-year-old man, formerly a smoker, presented with a history of acute alcoholic pancreatitis complicated by symptomatic WON. The WON was drained percutaneously. A few days later the patient presented again with fever, nausea, vomiting, and abdominal pain. The patient was septic, so he was transferred to our facility for further management. On admission he was started on broad-spectrum antibiotics. Computed tomography (CT) of the abdomen and pelvis showed a persistent 11 x 8 cm WON with a percutaneous drain in the proper position (Figure 1). The patient underwent EUS-guided WON drainage using a 15 x 10 mm AXIOS stent for better drainage. Direct endoscopic necrosectomy (DEN) was subsequently performed though the stent. The patient tolerated the procedure well and was discharged home with oral antibiotics. Five weeks later, he presented to our facility with septic shock.

Physical examination was significant for a percutaneous drain in the left upper quadrant with purulent, foul-smelling leakage with drain blockage. CT of the abdomen and pelvis showed persistent WON with an AXIOS stent and a percutaneous drain in the proper positions (Figure 1). The patient was started on broad-spectrum antibiotics; the percutaneous drain was exchanged under CT guidance with a larger size to allow better drainage, and DEN was planned on the next morning. Upon passing the scope into the esophagus, the AXIOS stent was noted in esophagus at the level of 25 cm from the incisors. Using a rat tooth forceps, the AXIOS stent was completely retrieved from the esophagus (Figure 2). The scope was then advanced into the stomach, and the cystogastrostomy was observed to be edematous and patent. The patient underwent a second session of DEN, and two double-pigtail

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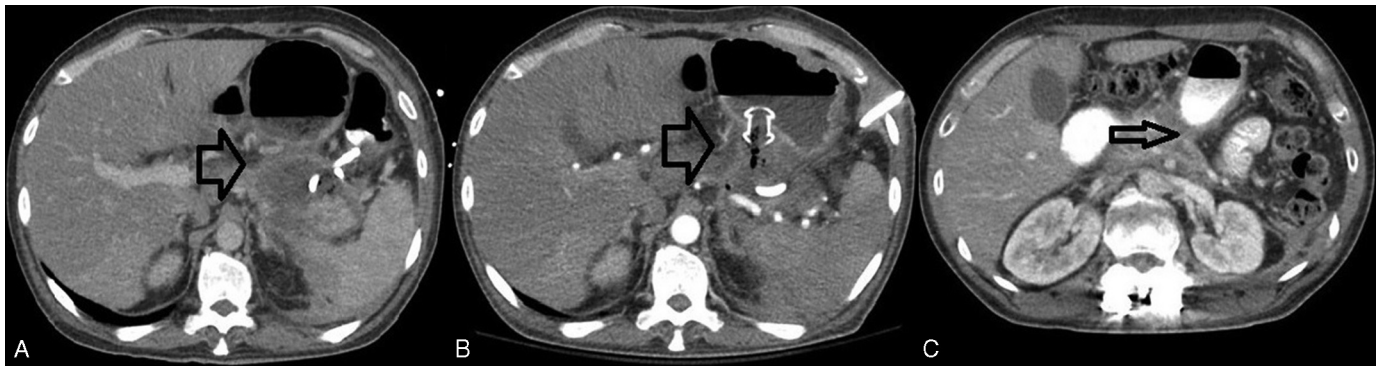


Figure 1. (A) CT of the abdomen and pelvis showing a persistent 11 x 8 cm walled-off necrosis (WON) with percutaneous drain in proper position. (B) CT of the abdomen and pelvis after 5 weeks (prior to upsizing of percutaneous drain) showing persistent WON with AXIOS stent and percutaneous drain in proper positions. (C) A follow-up CT scan 6 weeks after the last direct endoscopic necrosectomy showing no recurrence of the WON.

stents were placed through the same tract. Over the following 3 weeks, the patient underwent two further sessions of DEN and continued to improve clinically. Follow-up CT scan showed almost complete resolution of the WON, so the double-pigtail stents and percutaneous drain were removed. A follow-up CT scan 6 weeks later showed no recurrence of the WON (Figure 1).

DISCUSSION

EUS-guided transmural drainage has become the first-line therapeutic modality for drainage of pancreatic fluid collections (e.g., WON).⁴ For more than a decade, plastic and self-expandable metallic stents have been the most frequently used style of stent. The use of these tubular stents for transmural drainage is off-label, lacks lumen-to-lumen anchorage, and is associated with well-documented adverse events. Plastic stents are limited by stent migration, premature occlusion, inefficient drainage, and the need for frequent exchange.¹ Additionally, metallic tubular stents can be associated with a higher risk of migration, leakage, and mucosal

injury.¹ Recently, a novel stent was designed for endoscopic transluminal drainage that imparts lumen-to-lumen anchorage (AXIOS stent). The AXIOS stent has been shown promise for making transmural drainage quicker, safer, and more effective.² A recent systematic review and meta-analysis shows that the EUS-guided transmural drainage of pancreatic fluid collections using the AXIOS stent has an overall technical and clinical success rate of 97% and 88%, respectively.⁵ Significant adverse events associated with AXIOS stent placement include migration, bleeding, infection, and perforation, with an overall adverse events rate of 1.6–3.8%.⁵ Three case reports have reported stent migration, with one of them occurring during direct necrosectomy and the other two occurring spontaneously.^{3,6,7} However, stent migration into the esophagus has never been reported. The cause of migration in our case could be spontaneous, secondary to excessive vomiting and retching, or as a result of a CT-guided percutaneous drain change that might facilitate the stent dislodgement.

DISCLOSURES

Author contributions: Y. Abdel-Aziz wrote the manuscript. A. Renno and T. Hammad reviewed the literature and supplied the images. A. Nawras edited the manuscript and is the article guarantor.

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Informed consent was obtained for this case report.

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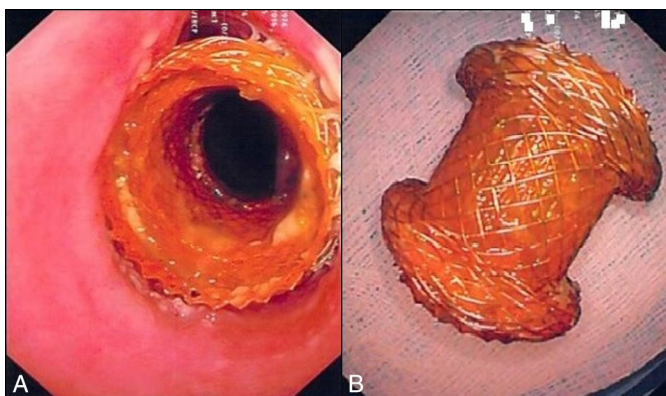


Figure 2. (A) The AXIOS stent, noted in the esophagus at the level of 25 cm from the incisors. (B) The AXIOS stent after it was completely retrieved from the esophagus using a rat tooth forceps.

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