

# Post-biliary sphincterotomy bleeding despite covered metallic stent deployment

SAGE Open Medical Case Reports  
Volume 4: 1–3  
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DOI: 10.1177/2050313X16645756  
sco.sagepub.com



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## Abstract

**Objectives:** Several endoscopic techniques have been proposed for the management of post-sphincterotomy bleeding. Lately, self-expandable metal stents deployment has gained popularity especially as a rescue therapy when other endoscopic techniques fail.

**Methods-results:** We report the case report of a massive post-sphincterotomy bleeding in a patient with a self-expandable metal stent in the biliary tree. Despite the presence of a correctly positioned self-expandable metal stent, a new endoscopic session was required to control the bleeding.

**Conclusions:** Self-expandable metal stent may be useful to manage post-endoscopic sphincterotomy bleeding. However, up to now there is no specifically designed self-expandable metal stent for such complication. Large new designed self-expandable metal stent may be a useful tool for biliary endoscopist.

## Keywords

Bleeding, endoscopic sphincterotomy, self-expandable metal stent, covered self-expandable metal stent

Date received: 6 December 2015; accepted: 24 March 2016

## Introduction

Bleeding occurs in 2%–12% cases after biliary endoscopic sphincterotomy (ES).<sup>1</sup> Several techniques have been described to achieve hemostasis: adrenalin injection, thermal coagulation, and glue.<sup>1</sup> However, with the spread of fully covered removable self-expandable metal stent (FCSEMS), its temporary deployment to achieve hemostasis by mechanical compression on the papilla has become a standard treatment.<sup>1–3</sup>

## Case

A 55-year-old man was admitted to hospital for jaundice and fever. Computed tomography (CT) scan showed dilatation of biliary tree and a mass of the pancreatic head. Endoscopic ultrasound-guided fine needle aspiration (EUS-FNA) and biliary drainage by endoscopic retrograde cholangiopancreatography (ERCP) with stenting of common bile duct (CBD) (WallFlex<sup>®</sup>, 6 cm long, 10 mm large, fully covered; Boston Scientific, Marlborough, MA, USA) were performed to achieve biliary drainage as bridge to

surgery. An ES was performed before stenting to reduce the risk of post-ERCP pancreatitis. After 12 h, the patient presented bleeding per rectum and hemorrhagic shock. Hemoglobin level dropped to 5 g/dL. After resuscitation and blood transfusions, duodenoscopy was performed. A firm clot occluding the duodenum was present with concomitant gastric stasis. Removal of clots with Dormia basket exposed an active bleeding on the right edge of the previous sphincterotomy. The bleeding occurred despite

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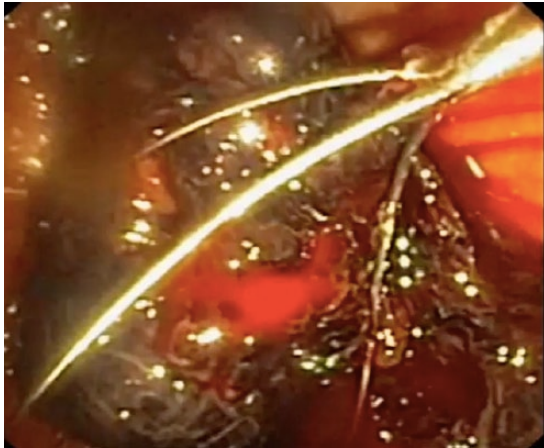
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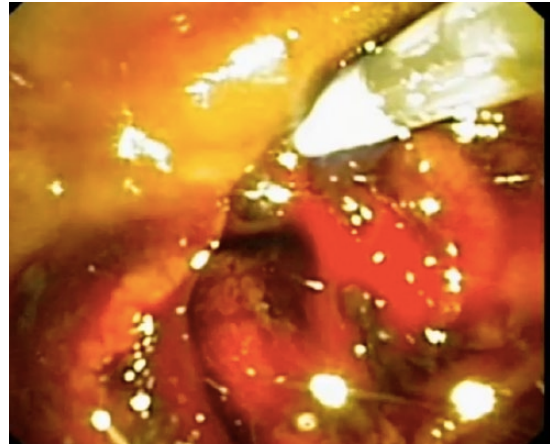
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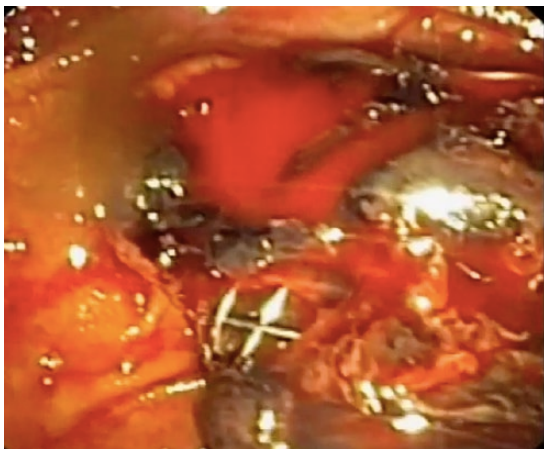




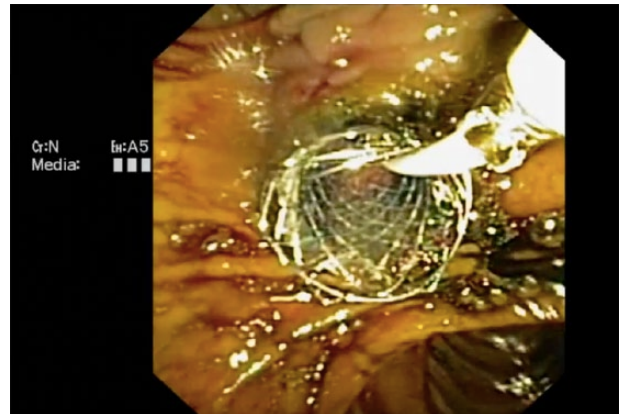
**Figure 1.** Clot adherent to sphincterotomy and its removal by means of Dormia basket.



**Figure 3.** Hemostasis by epinephrine injection (1:20000).



**Figure 2.** Active bleeding was spotted on the right edge of sphincterotomy despite presence of a covered metallic stent.

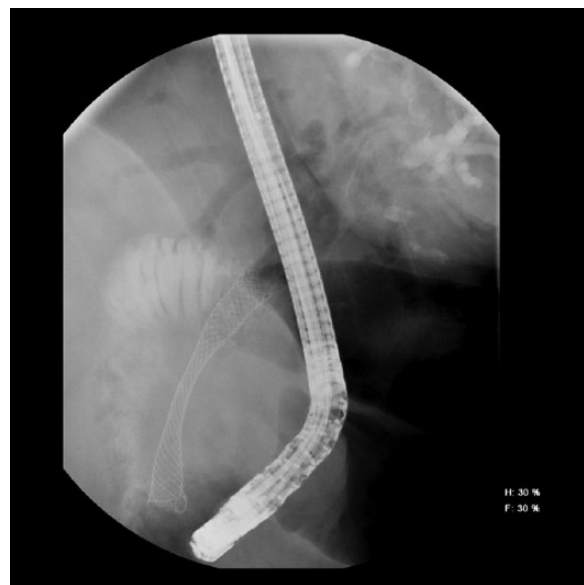


**Figure 4.** Complete hemostasis after injection and SEMS deployment.

presence of covered metallic stent. Most probably, the self-expandable metal stent (SEMS) failed to achieve water-tight tamponade due to the large size of ES (Figures 1 and 2). Therefore, the stent was removed to better localize the bleeding. Temporary hemostasis was successfully achieved by submucosal injection of 20 cc of epinephrine (1:20000) on the edges and on the roof of sphincterotomy (Figure 3). A new SEMS was deployed to guarantee biliary drainage and definitive hemostasis (Figures 4 and 5). Recovery was uneventful, and patient was discharged after 2 days.

## Discussion

ES before metallic stenting for pancreatic cancer is associated with lower incidence of post-procedural pancreatitis;<sup>4</sup> however, bleeding and perforation may occur anyway. Meanwhile, in case of unresectable pancreatic cancer, ES is not advised.<sup>5</sup>



**Figure 5.** Radiological control of deployed SEMS.

In the event of bleeding, covered metallic stent is usually considered as the last endoscopic resort to achieve hemostasis before undergoing embolization and/or surgery for bleeding following ES or duodenal ulcer<sup>6</sup>. We believe that in case of bleeding, a long (6 cm) FCSEMS may be useful to achieve definitive hemostasis avoiding in the meantime spontaneous migration frequent in the absence of a biliary stricture. The shorter the stent (4 cm), the higher the risk of migration. Epinephrine injection may be useful to induce a temporary hemostasis and to improve visibility in case of active bleeding coupled with FCSEMS deployment to guarantee definitive hemostasis.

## Conclusion

To our knowledge post-ES bleeding despite deployment of covered metallic stent has never been reported before. Concomitant epinephrine injection and stenting seem to be effective and synergic to achieve hemostasis. However, we feel that larger size new designed biliary stent will be of immense help in such special scenarios when large biliary duct are present, such as after large ES or dilatation-assisted stone extraction (DASE).

## Declaration of conflicting interests

Dr Donatelli declares to be consultant for Boston Scientific. The other authors declare no conflict of interest in preparing this article.

## Ethical approval

Our institution does not require ethical approval for reporting individual cases or case series.

## Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

## Informed consent

Verbal informed consent was obtained from the patient(s) for their anonymized information to be published in this article.

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