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Successful endoscopic hemostatic treatment for endotracheal bleeding

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Dear Editor,

This paper reported a 41-year-old male patient who developed lung infection that later resulted in hypoxia and emergency endotracheal intubation. Before this, he underwent surgery for Stanford type A aortic dissection. The patient experienced hemorrhagic shock following tracheal intubation. After receiving blood transfusion, the patient was hemodynamically stable and subsequently underwent emergency gastroscopy. Large amount of blood was observed in the mouth, esophagus, and stomach but without active bleeding. After the gastroscope was withdrawn, we found that the glottis was blocked by fresh blood and a large blood clot. There was pulsatile exudate from the anterior wall of the tracheostomy following adequate aspiration of the blood and blood clot (Fig. 1a), therefore immediately we used an 11-mm wide harmonic clip with a length of 1950 mm (ROCC-D-26-195-C; Micro-Tech, Nanjing, China), but unfortunately, rebleeding was still present. Because of the narrowness of the tracheal lumen, we found it difficult to deploy the harmonic clamp
again, thus, the closed tip of a hemostat (FD-411QR; Olympus, Tokyo, Japan) was gently contacted with the clamp to maintain the current flow for 1 to 2 seconds. The settings of the electrosurgical device (VIO 200D; Erbe, Tübingen, Germany) were as follows: 80W, effect 4 and soft coagulation mode (Fig. 1b). Forceps was removed considering that it was a foreign object to the trachea, and an endoscope was reinserted instead to apply pressure on the bleeding site with a gauze strip soaked in norepinephrine (Figure 1c). After 10 minutes, we removed the gauze and the original bleeding site was no longer bleeding, suggesting that the operation was completed (Figure 1d).

The anesthesiologist anesthetized the airway. The patient showed no further bleeding and was discharged from the hospital two weeks later.

Post-intubation airway bleeding is an uncommon but fatal adverse event [1-3]. Airway bleeding can result in airway obstruction and aspiration in addition to anemia. Accurately locating the bleeding site and stopping it quickly are critical to success treatment. Airway bleeding can also be stopped by cuff hyperinflation, tamponade, bronchoscopy, surgical ligation, endovascular stent placement, or interventional arterial embolization [4, 5]. This article reported for the first time a successful application of gastroscopy in hemostasis, which is a pioneering application of endoscopy in the emergency field (these images are published with the informed consent from the patient).

The authors declared that they had no conflicts of interest.
Figure 1. a. A pulsating bleeding point was visible on the anterior wall of the trachea above the tracheostomy site. b. Harmonic clamp was applied and indirect

electrocoagulation was performed with hemostatic forceps. No further bleeding was observed. c. The harmonic clamp were removed, and a gauze strip soaked with norepinephrine was applied for hemostasis by compression. d. No further bleeding was observed at the bleeding site after removing the gauze strip.