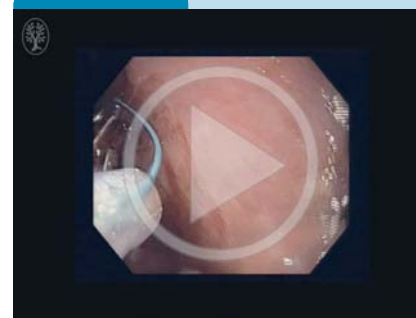


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### Video 1



Endoscopic views showing the tulip-bundle technique as rescue treatment for a Mallory-Weiss tear with persistent bleeding despite proper application of several hemostatic clips. The placement of an endoloop around the clips results in the achievement of definitive hemostasis.

## Tulip-bundle technique as rescue hemostatic therapy in a deep Mallory-Weiss tear

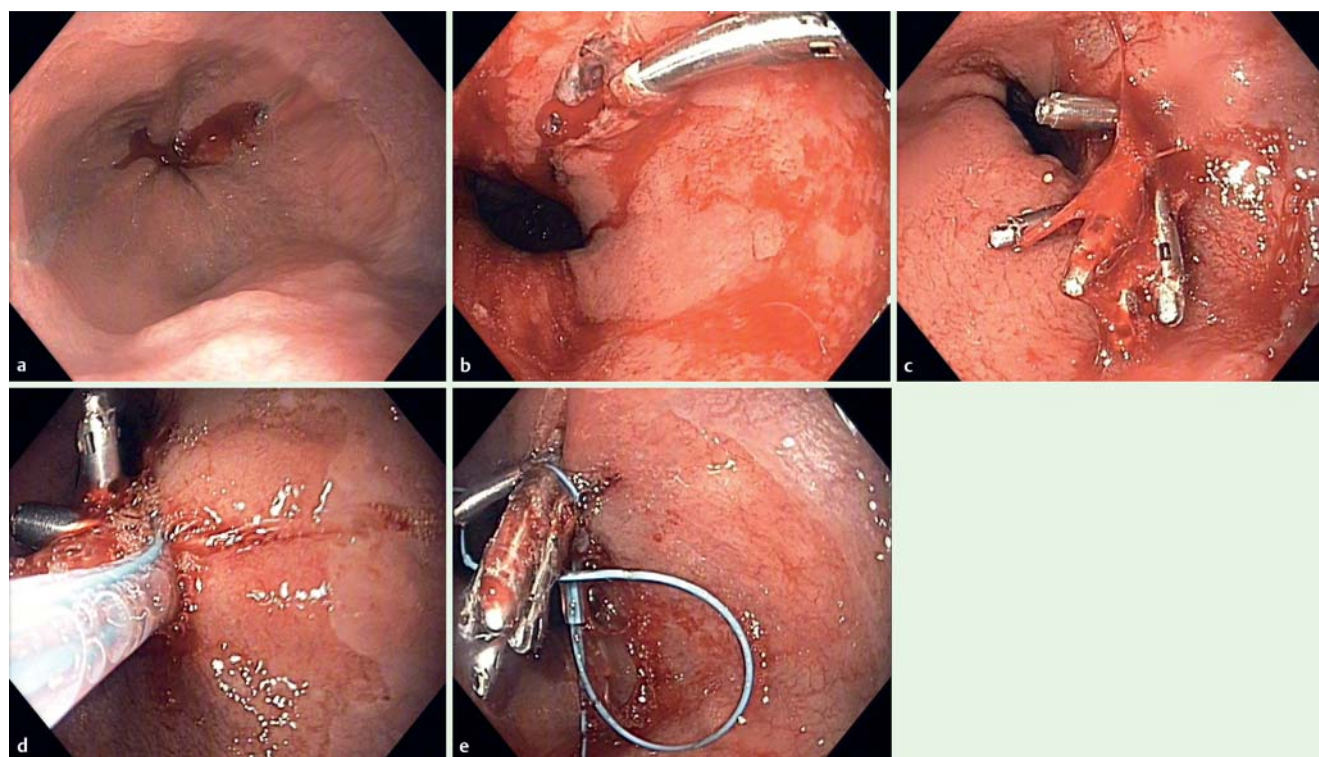
An 80-year-old woman who was anti-coagulated with rivaroxaban for a previous deep venous thrombosis of the left lower limb presented with a 12-hour history of hematemesis. Her physical examination was unremarkable, and she had a blood pressure of 153/78 mmHg and heart rate of 75 beats/minute. Laboratory test results showed a hemoglobin level of 13.1 g/dL. Upper gastrointestinal endoscopy revealed a deep Mallory-Weiss tear with a visible vessel and active pulsatile bleeding located in a hiatus hernia (Fig. 1 a).

Because she was anticoagulated with rivaroxaban, mechanical hemostasis with clips (Resolution Clip; Boston Scientific) was selected as the treatment (Fig. 1 b) but despite the application of six hemostatic clips, bleeding persisted (Fig. 1 c). Subsequently, a tulip-bundle technique was planned (Video 1). A detachable snare (MAJ-254; Olympus, Tokyo, Japan) was placed over the clips (Fig. 1 d), which resulted in immediate hemostasis

(Fig. 1 e). Adjunctive management with nil per os, a proton pump inhibitor as a continuous infusion, metoclopramide, and prophylactic enoxaparin instead of rivaroxaban was instituted. The patient remained asymptomatic and was discharged 3 days later.

Mallory-Weiss syndrome accounts for 6%–14% of all cases of upper gastrointestinal bleeding, mainly occurring at the gastroesophageal junction or gastric cardia [1].

The tulip-bundle technique consists of the placement and tightening of a detachable snare around clips [2]. This technique has a range of applications, including hemostasis and closure of perforations and fistulae [2,3]. Moreover, this technique may represent an effective rescue treatment in bleeding that is refractory to initial hemostasis in patients with comorbidities that limit hemostatic options, as highlighted in this report.



**Fig. 1** Endoscopic views showing: **a** a Mallory-Weiss tear with active bleeding located in a hiatus hernia; **b** placement of a hemostatic clip; **c** persistent bleeding after the placement of six hemostatic clips; **d** a detachable snare tightened around the hemostatic clips; **e** cessation of the bleeding after completion of the tulip-bundle technique.

## References

- 1 Kim JJ, Sheibani S, Park S et al. Causes of bleeding and outcomes in patients hospitalized with upper gastrointestinal bleeding. *J Clin Gastroenterol* 2014; 48: 113–118
- 2 Pinho R, Silva J, Ponte A et al. Grasp-to-retract modification of the tulip-bundle technique in forward and retroflexed position for difficult hemostasis in the sigmoid colon. *Endoscopy* 2015; 47 (Suppl. 01): E554–E555
- 3 Perri F, Gentile M, Scimeca D et al. Closure of a gastrotaneous fistula by a tulip-bundle technique. *Endoscopy* 2011; 43 (Suppl. 02): E419

## Bibliography

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