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<sup>1</sup> Surg Endosc. 2011 Oct;25(10):3273-8. Epub 2011 May 2.

**Flexible endoscopic Zenkers diverticulotomy with a novel bipolar forceps: a pilot study and comparison with needleknife dissection.**

[Rieder E](#), [Martinec DV](#), [Dunst CM](#), [Swanström LL](#).

**Source**

Legacy Health, Portland, OR 97210, USA. [erwin.rieder@meduniwien.ac.at](mailto:erwin.rieder@meduniwien.ac.at)

**Abstract**

**BACKGROUND:**

Zenker's diverticulum (ZD) is the most common diverticulum of the upper gastrointestinal tract. Various flexible endoscopic techniques have been used for division of the septum. However, the learning curve associated with these techniques might be difficult to overcome given the overall rarity of this condition. This can lead either to complications or to potential recurrence of symptoms. The authors hypothesized that a flexible bipolar hemostasis forceps developed for natural orifice transluminal surgery (NOTES) procedures would facilitate precise endoscopic diverticulotomy and simultaneously enable sealing of divided tissue edges.

**METHODS:**

Because the pharyngeal diverticulum (PD) in the pig is comparable with a human ZD, this nonsurvival model was used to perform endoscopic diverticulotomy using two energy technologies. The PD septum was dissected with either a flexible and a rotating bipolar forceps (n = 5) or with standard needleknife cautery (NK; n = 3). The feasibility and safety of the two technologies were compared.

**RESULTS:**

In contrast to NK myotomy, the bipolar forceps could easily be readjusted before any tissue dissection in all (5/5) interventions, and energy was applied only on the tissue to be divided. Tissue bonding at the edges of the septum was observed in all cases. The monopolar energy in NK dissection made precise and centered division of the septum difficult to achieve and did not bond the edges of the septum. One perforation occurred with NK (1/3).

## **CONCLUSIONS:**

The flexible bipolar forceps used for Zenker's diverticulotomy is appealing due to its ease of application and potential to coaptate mucomuscular tissue edges. Although further evaluation with a survival model is necessary, it also seems to be a safer approach than NK. This novel tool could facilitate performance of surgical endoscopists and may make flexible endoscopy the preferred method for Zenker's ablation.

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