classifications is that the latter has a stronger focus on postprocedural interventions rather than the number of postprocedural admission days. The focus on admission days within the ASGE lexicon is much more likely to be influenced by local policies and resources than the interventions described in the AGREE classification.

Regarding the definition of an AE including all events "irrespective of the likelihood of a potential link," the only way to track all possibly related AEs is by registering all periprocedural events, leaving judgement regarding causality for later. Taking the example of medication side effects, we often need larger numbers of possible AEs before a relationship can be established or refuted. As part of local governance, AEs should be reviewed in regular morbidity and mortality meetings to identify any causal relationships in an objective manner. Regular meetings attended by all endoscopy staff should therefore serve as the standard to determine such causality. Register first and determine causal relationship later!

Finally, the high agreement of the 2 classifications is important and shows that we are not trying to completely change the way we look at AEs but rather are adapting tools from the past to be ready for the future. GI endoscopy is evolving more as an interventional specialty, with different types and more severe possible AEs than a decade ago. One could argue that endoscopy is closer to the realms of surgery than ever before. We should therefore do our utmost to strive for transparency and comparability with a straightforward and easily reproducible classification system for AEs that supports existing governance processes.

#### **DISCLOSURE**

All authors disclosed no financial relationships.

# Karlijn J. Nass, MD Manon van der Vlugt, MD, PhD

Department of Gastroenterology and Hepatology Research Institute Amsterdam Gastroenterology and Metabolism

> Amsterdam University Medical Center Amsterdam, The Netherlands

Srivathsan Ravindran, MBBS, MSc, MRCP

Wolfson Unit for Endoscopy St Mark's Hospital Department of Surgery and Cancer Imperial College London London, UK

Siwan Thomas-Gibson, MD, FRCP

Wolfson Unit for Endoscopy St Mark's Hospital Department of Surgery and Cancer Department of Metabolism, Digestion, and Reproduction Imperial College London London, UK

## Paul Fockens, MD, PhD

Department of Gastroenterology and Hepatology Research Institute Amsterdam Gastroenterology and Metabolism Amsterdam University Medical Center

Amsterdam University Medical Center Amsterdam, The Netherlands

#### REFERENCES

- 1. Facciorusso A, Hassan C, Repici A. The AGREE classification: a useful new tool or just a procrustean bed? Gastroinest Endosc 2022;95:1280.
- Nass KJ, Zwager LW, van der Vlugt M, et al. Novel classification for adverse events in GI endoscopy: the AGREE classification. Gastrointest Endosc 2022;95:1078-85.e8.

https://doi.org/10.1016/j.gie.2022.02.039

# Modified endoscopic vacuum therapy: Are we ready for prime time?



To the Editor:

We congratulate Jung et al<sup>1</sup> on their study entitled "Endoscopic vacuum therapy for the management of upper GI leaks and perforations: a multicenter retrospective study of factors associated with treatment failure (with video)." The authors report a clinical success of 70.6% in 119 consecutive patients treated with endoscopic vacuum therapy (EVT), with neoadjuvant treatment and intraluminal placement independently associated with EVT failure.

The high efficacy<sup>2,3</sup> of the EVT is related to its mechanism of action such as macro/micro deformation, changes in perfusion (angiogenesis), exudate control, and bacterial clearance.<sup>4-6</sup>

The use of the traditional open-pore polyurethane sponge (OPPS) is associated with challenging placement and removal, prolonged procedures, and the need for multiple exchanges caused by tissue ingrowth. On the basis of these limitations, Loske et al<sup>6</sup> described the use of the open-pore film (OPF), but this is not widely available and has a high cost.

Therefore, we are using a cost-effective modified EVT. The use of this novel EVT has the advantage of being less costly with similar benefits of the OPF (easy placement, reduction in procedure time, longer interval between system exchanges, and lower rate of adverse events [AEs] related to the OPPS) and has been associated with high rates of clinical success and low rates of AEs.<sup>7-10</sup>

The modified EVT is manufactured on the fenestrated portion of the nasogastric tube with gauze and

antimicrobial incise drape, as previously described by our group.  $^{4,7-10}$  Its placement can be either intracavitary (always when there is an associated collection) or intraluminal. Additionally, with the use of a triple-lumen catheter, these patients can also start early enteral nutrition.  $^{7,9,10}$ 

Therefore, on the basis of our experience, we suggest the use of the modified EVT in place of traditional OPPS. This novel approach can decrease costs and minimize AEs. We welcome the authors' view on this.

#### **DISCLOSURE**

Dr Sánchez-Luna is the recipient of a research grant from the American Society for Gastrointestinal Endoscopy and Fujifilm. Dr Thompson is the recipient of consulting fees and institutional research support from Apollo Endosurgery, Boston Scientific, GI Dynamics, Lumendi, Olympus/Spiration, and USGI Medical; the recipient of institutional research support from Aspire Bariatrics, Erbe, and FujiFilm; and the recipient of consulting fees from Covidien/Medtronic and Fractyl; he is also a general partner in BlueFlame HealthCare Venture Fund, is a board member of EnVision Endoscopy, is an advisory board member of Fractyl and USGI Medical, and has an ownership interest in GI Windows. Dr E. G. H. De Moura is the recipient of consulting fees from Boston Scientific and Olympus. Dr D. T. H. De Moura is an advisory board member of and the recipient of consulting fees from BariaTek. The other author disclosed no financial relationships.

# Sergio A. Sánchez-Luna, MD

Basil I. Hirschowitz Endoscopic Center of Excellence Division of Gastroenterology and Hepatology Department of Internal Medicine

The University of Alabama at Birmingham Heersink School of Medicine

Birmingham, Alabama, USA

## Christopher C. Thompson, MD, MSc

Division of Gastroenterology, Hepatology, and Endoscopy Brigham and Women's Hospital – Harvard Medical School Boston, Massachusetts, USA

# Eduardo Guimarães Hourneaux De Moura, MD, MSc, PhD

Endoscopy Unit Gastrointestinal Department Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo São Paulo, Brazil

#### Flaubert Sena de Medeiros, MD

Surgery Division Federal University of Rio Grande do Norte Natal, Brazil

## Diogo Turiani Hourneaux De Moura, MD, MSc, PhD

Endoscopy Unit

Gastrointestinal Department

Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo

São Paulo, Brazil

#### REFERENCES

- Jung DH, Huh CW, Min YW, et al. Endoscopic vacuum therapy for the management of upper GI leaks and perforations: a multicenter retrospective study of factors associated with treatment failure (with video). Gastrointest Endosc 2022;95:281-90.
- Scognamiglio P, Reeh M, Karstens K, et al. Endoscopic vacuum therapy versus stenting for postoperative esophago-enteric anastomotic leakage: systematic review and meta-analysis. Endoscopy 2020;52:632-42.
- Kuehn F, Loske G, Schiffmann L, et al. Endoscopic vacuum therapy for various defects of the upper gastrointestinal tract. Surg Endosc 2017;31:3449-58.
- de Moura DTH, de Moura BFBH, Manfredi MA, et al. Role of endoscopic vacuum therapy in the management of gastrointestinal transmural defects. World J Gastrointest Endosc 2019;11:329-44.
- Bemelman WA, Baron TH. Endoscopic management of transmural defects, including leaks, perforations, and fistulae. Gastroenterology 2018;154: 1938-46.e1.
- Loske G, Schorsch T, Rucktaeschel F, et al. Open-pore film drainage (OFD): a new multipurpose tool for endoscopic negative pressure therapy (ENPT). Endosc Int Open 2018;6:E865-71.
- de Moura DTH, Hirsch BS, do Monte Junior ES, et al. Cost-effective modified endoscopic vacuum therapy for the treatment of gastrointestinal transmural defects: step-by-step process of manufacturing and its advantages. VideoGIE 2021;6:523-8.
- de Moura DTH, do Monte Junior ES, Hathorn KE, et al. The use of novel modified endoscopic vacuum therapies in the management of a transmural rectal wall defect. Endoscopy 2021;53:E27-8.
- de Moura DTH, do Monte Junior ES, Hathorn KE, et al. Modified endoscopic vacuum therapy in the management of a duodenal transmural defect. Endoscopy 2021;53:E17-8.
- 10. de Moura DTH, Hirsch BS, Boghossian MB, et al. Low-cost modified endoscopic vacuum therapy using a triple-lumen tube allows nutrition and drainage for treatment of an early post-bariatric surgery leak. Endoscopy. Epub 2021 Aug 9.

https://doi.org/10.1016/j.gie.2021.12.049

# Response:



We thank Sánchez-Luna et al<sup>1</sup> for their interest in our recent publication about endoscopic vacuum therapy (EVT) for the management of upper GI (UGI) leaks and perforations.<sup>2</sup> UGI leaks and perforations lead to serious conditions associated with high morbidity and mortality. A recent meta-analysis showed that EVT for the treatment of UGI leaks and perforations is effective.<sup>3</sup> Sánchez-Luna et al<sup>1</sup> have introduced a cost-effective modified EVT that compensates for the shortcomings of the current EVT.<sup>4,5</sup> As the authors stated, the efficacy of modified EVT is promising. We agree with the authors that the traditional polyurethane sponge is associated with challenging placement and removal, is a time-consuming and