

The Evolution of “New Notes,” Origins, and Future Directions



Saurabh S. Mukewar, MBBs, Christopher J. Gostout, MD*

KEYWORDS

- New NOTES • Submucosa • Endoscopic intervention • Submucosal endoscopy
- Hybrid endoscopic submucosal dissection

KEY POINTS

- The submucosa is a loosely attached gut wall layer between the mucosa and muscularis propria.
- The histologic uniqueness of the submucosa allows simple mechanical forces such as from fluid instillation or blunt balloon dissection to transform this gut wall layer into a working space.
- Submucosal endoscopy is a new concept based on using the submucosa as a working space.
- Submucosal endoscopy can be used to perform extensive mucosal excision, removal of subepithelial tumors, per-oral endoscopic myotomy, and potential new applications.

Endolumenal flexible endoscopic excision of precancerous and cancerous mucosal lesions has become an expectation. Removal of lesions up to 2 cm is possible and reliable with cap-based endoscopic mucosal resection. However, removal of larger mucosal lesions poses a challenge requiring piecemeal resection, suboptimal histologic assessment, and a likely need for multiple endoscopic sessions. In the 1990s in the Development Endoscopy Unit (DEU) of the Mayo Clinic, attempts were made to achieve complete resection of large lesions (>2 cm) with en bloc techniques. To facilitate resection of large lesions, reliable submucosal fluid cushions (SFC) were created identifying hydroxypropyl methylcellulose as a readily available, inexpensive injectate equal to hyaluronic acid.¹ Working with the SFC led to an important observation: the mucosa could easily be separated from the underlying submucosa, referred to as “delamination” (Fig. 1). Using a robust and diffuse SFC, wide endoscopic mucosal resection (WEMR) of the esophagus was successful with removal of large

Division of Gastroenterology & Hepatology, Mayo Clinic, 200 First Street SW, Rochester, MN 55905, USA

* Corresponding author.

E-mail address: gostout.christopher@mayo.edu

Gastrointest Endoscopy Clin N Am 26 (2016) 229–235

<http://dx.doi.org/10.1016/j.giec.2015.12.004>

giendo.theclinics.com

1052-5157/16\$ – see front matter © 2016 Elsevier Inc. All rights reserved.

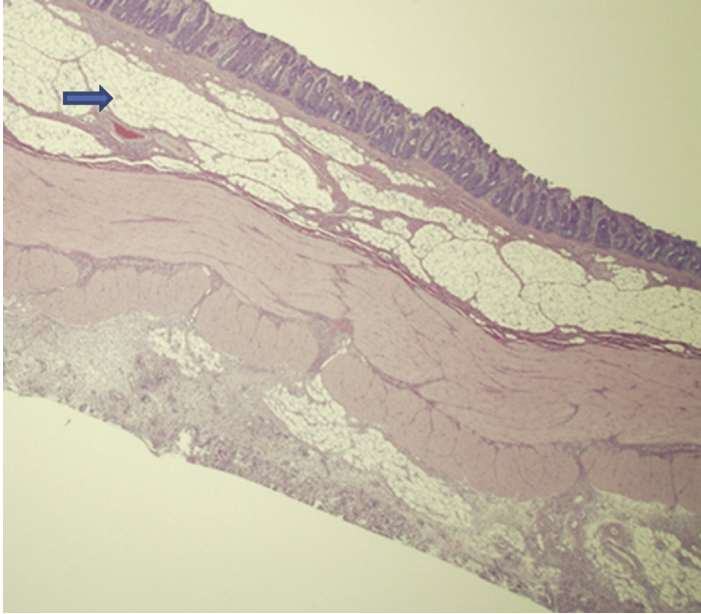


Fig. 1. The submucosa (*arrow*) is composed of loosely organized connective tissue, which can be easily disrupted, as for example, creating an SFC, separating the mucosa above from the muscle layer below.

areas greater than 5 cm in size involving up to 50% of circumference without inducing severe stricture.²

The experience with the development of WEMR directed attention to the submucosa. The submucosa can now be accessed and converted to a working space within which endoscopes and devices can be placed for diagnostic and therapeutic application. Initially, this was not included within the concept of natural orifice transluminal endoscopic surgery (NOTES). The vision for the submucosa is that within this space further intervention can be performed, “inside” toward the lumen or “outside” toward the deeper layers of gut and even beyond the gut wall (**Fig. 2**). For removal of mucosal lesions, going inward from submucosa toward mucosa for WEMR was theorized to be safer compared with traditionally going outward from the lumen toward the serosa, with an inherent risk of perforation and bleeding, whether using snare resection or endoscopic submucosal dissection (ESD). The submucosal space also allows access to the deeper layers of gut wall for diagnostic and therapeutic indications. For example, muscle biopsies from the muscular layers of the gut wall could thus be obtained, which previously required surgery. Offset entry through the mucosa and subsequent exit from the bowel wall at the far end of a submucosal space carries practical appeal for potential NOTES applications.³

TECHNIQUE FOR CREATION OF THE SUBMUCOSAL WORKING SPACE

The submucosal technique that can incorporate the above interventions is performed in a stepwise fashion with major procedural steps: isolating the submucosal layer, mucosal entry, conversion of the submucosal layer into a space, targeted interventions, and mucosal entry closure.

Download English Version:

<https://daneshyari.com/en/article/3310036>

Download Persian Version:

<https://daneshyari.com/article/3310036>

[Daneshyari.com](https://daneshyari.com)