

## Foreword

# Third Space Endoscopy: Expanding Therapeutic Power



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In an audacious and amazing progression, gastrointestinal (GI) endoscopists have opened a new vista where none seemed to exist—the submucosal space. A verb “to tunnel” has become central to the endoscopic method called third space endoscopy. Tunnelling through the mucosal lining of the GI tract into the submucosa with endoscopic instruments to create a space that can accommodate the scope itself was a truly disruptive achievement. Therapeutic applications of this technique have rapidly multiplied, adding tremendous new power to interventional endoscopy.

This is an extraordinary issue of the *Gastrointestinal Endoscopy Clinics of North America* devoted to the subject of third space endoscopy. The Editor for the issue is Dr Amrita Sethi, an internationally renowned interventional endoscopist, who is a central figure in guiding third space endoscopy into mainstream practice. Dr Sethi has provided a true state-of-the-art review of third space endoscopy topics with an over-the-top group of authors from around the world.

The issue begins with an authoritative history of the origins of the method in Asia, where the need for en bloc resection of early mucosal cancer in the stomach was a priority. The previous method, endoscopic mucosal resection, using cautery snares, often resulted in piecemeal removal associated with increased cancer recurrence. Japanese pioneers developed methods using needle-knife instruments based on those used for biliary endoscopy to tunnel around and under the lesions to be removed. I well remember when they came up with the name for this method: endoscopic submucosal dissection (ESD). The procedures, requiring skill and stamina, were first carried out in the stomach, and then with more difficulty in the esophagus, duodenum, colon, and rectum. As instruments and techniques improved, ESD spread from East to West and is performed widely throughout the world with accumulating results showing significant benefit. For removal of deeper tumors in submucosa and muscularis propria, the technique of endoscopic full-thickness resection (EFTR) has

been developed, with and without tunnelling. All the indications, techniques, and results so far are summarized in separate articles in this issue.

The next great leap came from extending the submucosal tunnel through long lengths of the esophagus to the esophagogastric junction, exposing the esophageal muscularis propria, which could then be excised (per-oral endoscopic myotomy or POEM) for treatment of achalasia and other esophageal motility disorders. Like ESD, POEM has been performed from the top to the bottom of the GI tract for a variety of smooth muscle disorders, with pyloric myotomy for selected cases of gastroparesis gaining traction. Again, articles describing indications, techniques, and results are included in this issue.

Training in third space endoscopy is the next big hurdle. In the West, these procedures are currently done mostly by top-gun interventionists in academic centers. Aside from training more GI Fellows, live case demonstrations in postgraduate courses can be helpful along with hands-on training models. Critical to third space endoscopy is the mastering of electrocautery instruments and techniques, selecting settings and devices for cutting and coagulating as needed. Separate articles in this issue cover devices and electrocautery principles in depth. Methods for closure of tunnel entrances and areas following EFTR are also provided in another article, as are avoidance and management of adverse events.

There is a final article on the future of third space endoscopy, including a discussion of incorporating robotics with the potential for increased safety and efficiency. When I read through the entire contents of this outstanding issue, I suspect that three decades ago I probably would have thought where we are today was science fiction. There has been fantastic progress for third space endoscopy, clearly a less-invasive method that will in many cases replace more costly and morbid operations for the benefit of our patients. This issue is a don't miss!

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