Surgeons Are Coming: TEMS, TAMIS, & Lap Assisted Colonoscopic Resection

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There are various techniques for local excision of rectal lesions. Kraske and York-Mason are classic methods of posterior approach. Endoscopic snare polypectomy, endoscopic mucosal resection (EMR) and endoscopic submucosal dissection (ESD) using colonoscopy have an advantage for excision of rectal adenomas and early rectal cancer without general or spinal anesthesia. Transanal excision (TAE) and transanal endoscopic microsurgery (TEM) are alternative techniques for excision of rectal adenomas and early rectal cancer with the advantages of fast recovery and full-thickness excision of the rectum. TEM was first described in 1984 by Buess et al, who used a 40-mm operating insufflating proctoscope and it required specially designed instrument. However, this method was technically challenging and time consuming and had a high cost. Some studies reported internal sphincteric injury by stretching after TEM, although there were also reports that TEM has no detrimental effect on fecal continence. Transanal minimally invasive surgery (TAMIS) is relatively recent surgical technique to replace TEMS. One of the advantages of TAMIS is that it is possible to use a soft and flexible port such as the SILST™ port, which was used widely. This can overcome the drawback of TEM, which involves a hard and rigid 40-mm proctoscope. The TAMIS technique can preserve sphincter function, even when accessing very low rectal lesions, and has minimal morbidity such as genitourinary dysfunction. The advantages of TEM are less or no postoperative pain, short operative time, negligible blood loss, unrestricted mobility, short hospitalization, quick rehabilitation, and absence of skin scars. TAMIS also arose from the concept of fast recovery from surgery for deeply invading and high-located rectal lesions. However, in contrast to TEM, this new technique uses laparoscopic instruments that are already being used to access those deep and high lesions. In other words, TAMIS is a technique combining laparoscopic single-port access and principles of TEM. It also has the technical advantages of enhanced visualization and more precise dissection. TAMIS has initially been used for local excision of neoplasms at the rectum, but could be useful for various clinical or pathological situations other than local resection. Lap-assisted colonoscopic resection is an alternative for larger polyps in colon. It is meaningful surgical technique from the view of organ preservation. When a large polyp is located in the cecum, there are two surgical options. One is ileo-cecectomy with ileo-colic anastomosis and the other is lap-assisted colonoscopic resection. Former technique is also safe and feasible surgical option, however, it sacrifices ileocecal valve and part of terminal ileum as a result it can deteriorate quality of life of patients. Lap-assisted colonoscopic resection can preserve physiologic function and facilitate QoL improvement. In conclusion, there are several surgical op-
tions of minimal invasive colorectal resection and multidisciplinary team approach can choose most proper technique for individual patients.

References