POEM for Achalasia in the World

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Peroral endoscopic myotomy (POEM) is a recently developed endoscopic technique for the treatment of achalasia. The technique has been adopted worldwide due to reports of excellent short-term clinical outcomes. Peroral endoscopic myotomy (POEM) consists of performing a long esophagomyotomy of the inner circular muscle bundles from the upper thoracic esophagus to approximately 2 cm distal from the gastroesophageal junction (GEJ). The procedure is done in the operating room under general anesthesia with endotracheal intubation. CO₂ insufflation is used to reduce the risk of air embolism, pneumothorax and subcutaneous emphysema.

One of the most important benefits of POEM is to select the length of myotomy by the practitioner. In most patients, submucosal injection is done at the level of the mid esophagus, approximately 12-14 cm proximal to the GEJ. When the mucosotomy site is made at the level, the estimated length of submucosal tunnel becomes 15-17 cm. Usual length of myotomy is more than 10 cm. Such length is enough to dissect muscle fibers which induce abnormal contractions. However, some patients are needed to receive much longer myotomy. With 12 o’clock representing the most anterior aspect of the esophagus on the endoluminal view, the 1-2 o’clock position on the right anterolateral esophagus is selected as a favorable site for a mucosal incision by most endoscopists. However, some practitioners want the mucosal incision at the posterior side in the 5 o’clock orientation, which is often regarded as the preferred site in patients with previous surgical myotomy, because POEM can leave scar tissue in the anterior plane. The angle of His is located at the 8 o’clock direction. An anterior myotomy can avoid damage to the sling muscle, and eventually the His angle keeps its original angulation.

The high success rate (89-100%) of POEM has been reported in short-term follow-up. Randomized studies comparing POEM to PBD or LHM are presently in progress. The most important risk factor for treatment failure of achalasia is the manometric subtype. Type I and Type III showed a worse outcome compared with type II achalasia after PBD and LHM. Recently, POEM has been described with high success rates in achalasia patients including type III subtype, even after several previous PBD and LHM. POEM also have been applied to the patients with other esophageal motility disorders such as distal esophageal spasm and Jackhammer esophagus, and the outcomes of the patients have shown excellent in short-term follow-up.

Acute adverse events of POEM include pneummediastinum, pneumoperitoneum, subcutaneous emphysema, pneumothorax, pleural effusion, and lung infiltration. However, most of adverse events can be considered as a consequence of procedure such as pneumoperitoneum after laparoscopic surgery except symptomatic cases who need any specific management. POEM commonly allows patients to return to work quickly. Another consideration of POEM is the development of GERD. An antireflux procedure is carried out during the surgical myotomy to avoid postoperative GERD. However, no antireflux procedure is carried out during POEM. Although longer follow-up, randomized studies are needed to compare POEM with PBD or LHM, POEM will replace balloon dilation and laparoscopic Heller my-
otomy in the near future.

References