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Issues to be Considered for Learning Curve for Peroral Endoscopic Myotomy

Hironari Shiwaku¹ and Haruhiro Inoue²

¹Department of Gastroenterological Surgery, Fukuoka University Faculty of Medicine, Fukuoka, ²Digestive Diseases Center, Showa University Koto-Toyosu Hospital, Tokyo, Japan

See “The Learning Curve for Peroral Endoscopic Myotomy in Latin America: A Slide to the Right?” by Michel Kahaleh, Amy Tyberg, Supriya Suresh, et al., on page 701-705.

Peroral endoscopic myotomy (POEM) was developed over 10 years ago.¹ Since then, several prospective multicenter studies and meta-analyses have shown its safety and efficacy.²⁻⁴ Therefore, POEM is likely to become the first-line treatment modality for achalasia. However, ensuring high-quality performance of POEM requires the development and prioritization of education of endoscopists worldwide.

Stabilization of the procedure time requires 20–40 procedures.⁵⁻⁷ However, in this issue of *Clinical Endoscopy*, Kahaleh et al.⁸ reported that approximately 60 cases were required. Experiences of the trainees and the characteristics of the patients differ between the reported studies. Therefore, it is difficult to determine the reasons for this discrepancy. However, one likely explanation for the 60 cases required to stabilize the procedure time is that 30% of the study cohort had Chagas disease-related achalasia. In this type of achalasia, esophageal parasitism and inflammation can involve both smooth muscle and the Meissner and Auerbach nerve plexuses. This can lead

to neuronal death, lymphocytic infiltration, and fibrosis. Additionally, the muscularis mucosa can be hypertrophic. These changes make separation of the mucosal layer from the muscularis layer difficult; thus, mucosal injury is more likely to occur when creating a submucosal tunnel.⁹⁻¹⁰ In this study, more adverse events occurred in the Chagas disease group than in the remaining patients, which confirms that it is more difficult to perform POEM in the former group. We believe that this multi-institutional study from Latin America is important and is worth reading because it describes the learning curve for POEM when the patient cohort includes difficult cases, such as patients with Chagas disease.

We would like to describe how we train endoscopists to perform POEM in Japan. Almost all endoscopists who perform POEM received training for at least a year at Showa University Koto Toyosu Hospital.³ The first two months at Showa University are devoted to laying the groundwork for performing POEM. To ensure that the trainees can adopt optimal strategies when performing POEM by themselves, they learn about the pathology and diagnostics of achalasia, relevant anatomical features, and the characteristics of the devices used in POEM. They also assist experts performing POEM. From the third month, the trainees perform the procedures themselves, partly under the guidance of experts.

POEM is performed with the patient lying supine; thus, the endoscope is maneuvered in a slightly different way than when performing standard endoscopic procedures with the patient lying on their left side. The most important consideration is keeping the axis of the endoscope straight and manually

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Correspondence: Haruhiro Inoue

Digestive Diseases Center, Showa University Koto-Toyosu Hospital, 5-1-38 Toyosu, Koto-ku, Tokyo 135-8577, Japan

Tel: +81-3-6204-6000, Fax: +81-3-6204-6396, E-mail: haru.inoue@med.showa-u.ac.jp

ORCID: <https://orcid.org/0000-0002-0551-7274>

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matching this maneuver with the operation of the tip of the endoscope. This is accomplished by clipping the mucosal incision and myotomy. Once the trainees can perform these maneuvers without any problems, they are taught how to create straight submucosal tunnels. After the trainees have learned how to accomplish these parts of the procedure, they begin to perform POEM from beginning to end under the supervision of an expert. This part of the training begins with less difficult cases (straight type, young patients, Chicago classification type II achalasia). If these are performed without any problems, the training progresses to more difficult cases (sigmoid type, older people, Chicago classification type III achalasia). Because we routinely employ a double-scope method to confirm complete incision of the lower esophageal sphincter, it is always completely incised, even when a trainee performed the procedure. In recent years, we have preserved the sling fibers when performing POEM (in the 4–5 o'clock direction). Because we divide the central part of the lesser curvature on the gastric side (avascular area) during the procedure, severe bleeding that can result from damaging the penetrating branch of the left gastric artery does not occur. Additionally, preservation of the sling fibers, which constitute one of the mechanisms for preventing gastroesophageal reflux, minimizes the severity of gastroesophageal reflux disease after POEM.

Here, we describe how we established a training schedule for POEM; however, the consequent standardization of this procedure has led to the decentralization of cases. The ability to undergo POEM at a nearby medical institution is a great advantage for patients requiring this intervention, but could prejudice maintaining the quality of the procedure. Considering that it takes at least 20–40 cases to adequately train one endoscopist, the need to continue to create excellent endoscopists prompts consideration of the strategy of aggregating cases to some extent, not only in Japan, but also in other countries. Such aggregation would also assist in maintaining the quality of accurate diagnosis of achalasia and postoperative follow-up, which in turn would benefit patients.

Conflicts of Interest

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Author Contributions

Investigation: Hironari Shiwaku
 Supervision: Haruhiro Inoue
 Validation: HS, HI
 Writing-original draft: HS
 Writing-review&editing: HS, HI

ORCID

Hironari Shiwaku: <https://orcid.org/0000-0002-8435-3668>
 Haruhiro Inoue: <https://orcid.org/0000-0002-0551-7274>

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