

The Choice of Myotomy in Achalasia Cardia: Heller's or Per-Oral Endoscopic Myotomy

Achalasia cardia (AC) is a neurodegenerative disease which leads to loss of inhibitory myenteric neurons. This implies that, with the currently available treatment options, we offer palliation but not cure to these patients. Pneumatic balloon dilatation (PBD) has been the only time-tested endoscopic modality for the management of AC until recently. However, the requirement of repeated dilatations remains a drawback. But, the introduction of per oral endoscopic myotomy (POEM), along with growing evidence of its safety and efficacy, has strengthened the armamentarium for the management of AC.

Robot assisted Heller's myotomy (RAHM) has gained popularity over the last decade. RAHM has equal efficacy to Laparoscopic Heller's myotomy (LMH) but lower rate of mucosal perforations.^[1] Therefore, it is possible that more number of surgical myotomies may be robot assisted in the near future. However, RAHM is costlier in comparison to LHM. Although randomized studies (RCTs) are lacking, few comparative studies suggest that either mode of myotomy (POEM or LHM) has equal efficacy, safety, and cost.^[2-4]

Till date, there is no study comparing POEM with RAHM. The comparison of two different treatment modalities stands on safety, efficacy, durability of response, and finally the cost-effectiveness in that order. If efficacy and safety are comparable, cost-efficiency plays an important role in decision making.

In this study, the authors compared the inpatient charges of POEM with RAHM. POEM was found to be significantly more cost-effective than RAHM (\$14481 vs. \$17782; $P = 0.02$).^[5] The major difference in costs were due to significantly less in-room and hospital stay charges in the POEM group. POEM can be safely performed in an endoscopy suite, which costs less than that of an operating theatre.^[6,7] It is likely that more and more centers will prefer an endoscopy suite for POEM procedure in the near future.

The other major determinants of cost with any surgical or endoscopic procedure include the cost of accessories used and duration of hospital stay. In addition, major procedure-related adverse events (AEs) often lead to lengthening of hospital stay and may directly affect the cost. In this study, AEs were equal in both the groups.^[5] Major AEs are rare with POEM and are likely to reduce after the completion of "learning curve".^[8]

POEM is relatively new-fangled. The technique and devices incorporated in POEM continue to evolve and are expected to improve further. With the availability of low cost accessories, the cost of POEM procedure will possibly fall further. Whether POEM can be routinely performed as an outpatient procedure with same day discharge remains to be seen.

Other important finding in this study was comparable clinical response rate in both groups. However, the length of myotomies was significantly more in the POEM group (11.6 cm vs. 8.6 cm, $P < 0.0001$).^[5] Length of myotomy is important in patients with spastic AC (Type III) and other non-achalasia spastic esophageal motility disorders such as jackhammer esophagus or distal esophageal spasm.^[9,10] The number of patients with spastic achalasia were not many (15/104; 14.4%) in the present study to make out any clinically significant difference in the response rate.^[5] Another distinct advantage of POEM over surgical myotomy is the freedom of changing the orientation of sub-mucosal tunneling and subsequent myotomy (double tunnel POEM) in case of sub-mucosal fibrosis on one side or if the symptoms are persistent after the initial POEM.^[11]

There are a few important facts to consider before concluding results of the present study. AC is a chronic disease and a proportion of cases do relapse after the initial response. Therefore, it is important to consider the cost associated with treatment of recurrent symptoms as well as that of managing reflux symptoms. Moreover, LHM is still the current gold standard of surgical myotomy. RAHM is not available at many centers and the establishment of robotic system is a costly affair in itself. Therefore, the applicability of results in the present study remains to be seen.

POEM has established its roots as an effective and safe treatment modality in short and intermediate-term studies. Long-term follow-up studies and randomized comparisons with other modalities such as LHM/RAHM or PBD are required. Cost-efficacy of the procedure may have the final word because both types of myotomies are highly effective and safe.

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REFERENCES

1. Perry KA, Kanji A, Drosdeck JM, *et al.* Efficacy and durability of robotic Heller myotomy for achalasia: Patient symptoms and satisfaction at long-term follow-up. *Surg Endosc* 2014;28:3162-7.
2. Bhayani NH, Kurian AA, Dunst CM, *et al.* A comparative study on comprehensive, objective outcomes of laparoscopic Heller myotomy with per-oral endoscopic myotomy (POEM) for achalasia. *Ann Surg* 2014;259:1098-103.
3. Marano L, Pallabazzer G, Solito B, *et al.* Surgery or Peroral Esophageal Myotomy for Achalasia: A Systematic Review and Meta-Analysis. *Medicine (Baltimore)* 2016;95:e3001.
4. Miller HJ, Neupane R, Fayeizadeh M, *et al.* POEM is a cost-effective procedure: Cost-utility analysis of endoscopic and surgical treatment options in the management of achalasia. *Surg Endosc* 2016.
5. M. K. Peroral Endoscopic Myotomy achieves Similar Clinical Response but Incurs Lesser Charges compared to Robotic Heller myotomy. *Saudi J Gastroenterol* 2016.
6. Khashab MA, El Zein M, Kumbhari V, *et al.* Comprehensive analysis of efficacy and safety of peroral endoscopic myotomy performed by a gastroenterologist in the endoscopy unit: A single-center experience. *Gastrointest Endosc* 2016;83:117-25.
7. Yang D, Pannu D, Zhang Q, *et al.* Evaluation of anesthesia management, feasibility and efficacy of peroral endoscopic myotomy (POEM) for achalasia performed in the endoscopy unit. *Endosc Int Open* 2015;3:E289-95.
8. Kurian AA, Dunst CM, Sharata A, *et al.* Peroral endoscopic esophageal myotomy: Defining the learning curve. *Gastrointest Endosc* 2013;77:719-25.
9. Khashab MA, Messallam AA, Onimaru M, *et al.* International multicenter experience with peroral endoscopic myotomy for the treatment of spastic esophageal disorders refractory to medical therapy (with video). *Gastrointest Endosc* 2015;81:1170-7.
10. Kumbhari V, Tieu AH, Onimaru M, *et al.* Peroral endoscopic myotomy (POEM) vs laparoscopic Heller myotomy (LHM) for the treatment of Type III achalasia in 75 patients: A multicenter comparative study. *Endosc Int Open* 2015;3:E195-201.
11. Tyberg A, Seewald S, Sharaiha RZ, *et al.* A multicenter international registry of redo per-oral endoscopic myotomy (POEM) after failed POEM. *Gastrointest Endosc* 2016.

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