



Surgical Treatment for Gastroesophageal Reflux Disease: Is It Effective Even for Asians?

Chan Hyuk Park

Department of Internal Medicine, Hanyang University Guri Hospital, Hanyang University College of Medicine, Guri, Korea

Article: Multicenter prospective study of laparoscopic Nissen fundoplication for gastroesophageal reflux disease in Korea
Park S, Park J, Kim J, et al
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Gastroesophageal reflux disease (GERD) is a prevalent disease worldwide, and its prevalence is the highest in North America (18.1-27.8%).¹ The prevalence of GERD is low in East Asia (2.5-7.8%);¹ however, it is gradually increasing in this region.²⁻⁵ Although various treatment options are available, proton pump inhibitors (PPIs) are still a mainstay in the management of patients with GERD. An approximately 70% healing rate and 60-90% complete symptom relief rate can be achieved by 4 weeks of PPI medication in patients with erosive reflux disease.⁶ The guidelines in the United States strongly recommend an 8-week course of PPIs as the therapy of choice for symptom relief and healing of erosive esophagitis.⁷

However, medical treatment of GERD has clinically unmet needs. First, GERD impairs patients' quality of life and work productivity despite antireflux medications.^{8,9} Refractory GERD symptoms have been identified in 10-40% of patients with GERD who are treated with PPIs.^{10,11} The economic burden due to long-term medication is also a concern.¹¹ In recent years, potential adverse events, including bone fracture, *Clostridium difficile* infection, pneumonia, micronutrient deficiency, dementia, and chronic kidney disease, have been suggested in patients with chronic PPI use.¹² A study even showed that PPI administration may be related to the

development of gastric cancer,¹³ although several critical biases in the study were raised.¹⁴

Now that more than 40 years have passed since PPIs began to be used, it is time to consider another treatment for GERD, such as antireflux surgery. In fact, Nissen fundoplication, a representative surgical treatment for GERD, is not a novel treatment. It was first performed in 1955 by Rudolph Nissen.¹⁵ In Nissen fundoplication, the fundus is wrapped around the lower esophagus. This procedure tightens up the valve and closes off the esophagus whenever the stomach contracts. It is now usually performed laparoscopically since laparoscopic Nissen fundoplication was first described by Dallemagne et al¹⁶ in 1991. The efficacy of laparoscopic antireflux surgery has been found to be comparable with that of PPIs in a multicenter randomized trial conducted in Europe.¹⁷ In the study, the estimated 5-year remission rate in patients who had undergone laparoscopic antireflux surgery was 85% (95% confidence interval, 81-90%).¹⁷ Although the study enrolled only PPI responders, long-term results are promising because most patients who had undergone surgery could discontinue medications, including PPIs.

In this issue of the *Journal of Neurogastroenterology and Motility*, Park et al¹⁸ reported a multicenter prospective study on the

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*Correspondence: Chan Hyuk Park, MD, PhD

Department of Internal Medicine, Hanyang University Guri Hospital, Hanyang University College of Medicine, 153 Gyeongchun-ro, Guri 11923, Korea
Tel: +82-31-560-2230, Fax: +82-31-553-7369, E-mail: yesable7@gmail.com

efficacy of laparoscopic Nissen fundoplication for GERD in Korea. In the study, antireflux surgery was found to significantly improve GERD symptoms and quality of life in patients with GERD indicated for surgical treatment. This study is clinically important for 3 reasons. First, it was performed in Korea, where most patients with GERD are currently treated with medication rather than surgery. Therefore, most patients had undergone long-term PPI therapy before surgery. The median follow-up duration of PPI therapy was 61.5 months, and 27% of patients took PPIs for more than 10 years. Nevertheless, more than 70% of patients did not require any medication at 3 months after the surgery. Second, the study population included relatively low proportions of severe erosive reflux disease (Los Angeles grade B-D, 13%), hiatal hernia (33%), and obese patients (35%). These study populations have distinct characteristics from those of patients with GERD in Western countries, including those with severe erosive reflux disease, hiatal hernia, and obesity. Thus, this study shows that antireflux surgery may be useful even in Asian populations. Third, this study also included many poor or non-responders to acid-suppressive drugs (49%). As most patients had typical symptoms (94%), including heartburn and regurgitation, we can guess that patients with symptoms caused by weakly acidic or non-acidic reflux may be included in the study.¹⁹ On the basis of the study findings, we can consider surgical treatment even for patients with typical symptoms but who do not respond to PPI therapy, in addition to patients who respond to PPI therapy.

As the authors already stated, the study by Park et al¹⁸ has a limitation of reporting only short-term outcomes of laparoscopic Nissen fundoplication. Nevertheless, this study, which included the largest prospective cohort in Korea, may provide a better understanding of the efficacy of laparoscopic Nissen fundoplication in East Asian patients with GERD. In the near future, long-term follow-up of this cohort will lead to a new perspective on the treatment of patients with GERD, especially in Asian countries.

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