**Surgery as the most effective option for minimally invasive treatment of achalasia**

Evelyn Astrid Dorado A., MD.1

1 General and Minimally Invasive Surgeon at the Universidad CES and Hospital Universitario San Ignacio. Assistant Professor of undergraduate and graduate studies in the Faculty of Medicine at the Pontificia Universidad Javeriana.

**Abstract**

Management of achalasia is controversial and various options have been proposed ranging from medical management to endoscopic and eventually to surgical management. After the advent of laparoscopy and all of its advantages, Cushieri became the first to perform a minimally invasive Heller myotomy in the 1990’s. Numerous articles and meta-analyses have compared available techniques for improvement of symptoms and improved quality of life. The surgical option has been rated highest in all cases.

To treat achalasia, the minimally invasive surgical service at San Ignacio Hospital performs laparoscopic cardiomyotomy and intraoperative endoscopy to evaluate and determine whether there are perforations in the esophageal mucosa. Finally, a Toupet partial fundoplication is performed with 50F calibration.

**Key words**

Achalasia, laparoscopic myotomy, pneumatic balloon dilatation.

**INTRODUCTION**

In our environment achalasia occurs infrequently: its incidence is 1/100,000. It is characterized by a neurovegetative disorder that affects the mesenteric plexus of the lower esophageal sphincter which results in hypertonia and motor disorder of the esophageal body (1). It presents most commonly among patients who are between 20 and 40 years old.

Different treatments for this disease have been reported including endoscopic treatment using botulinum toxin, endoscopic treatment using balloon dilatation, medical treatment using nitrates and the calcium, and finally surgical treatment consisting of myotomy of the lower esophageal sphincter combined with an antireflux procedure.

Surgical treatment has been shown to be the most effective treatment with up to 90% of all symptoms improving (2) and positive impact on patient quality of life from the antireflux procedure.

Various techniques for performance of this procedure have been described. They range from traditional open surgery to minimally invasive thoracoscopic or laparoscopic surgery.

A metaanalysis of 39 articles with 3086 patients with 35.4 months follow up has shown the superiority of the laparoscopic approach over the thoracoscopic approach (89.3% vs. 77.6%; OR 1.9; 95% IC 0.8-2.9; P=0.3) (3). These approaches were accompanied either by prior fundoplication type DOR or posterior Toupet type to partially treat reflux. The gastroesophageal reflux index in laparoscopic procedures was lower than that in thoracoscopic procedures (2).

The European Achalasia Trial Investigators Group which groups together 15 centers in 5 European countries compared endoscopic balloon dilation and surgical treatment. The Eckardt Score was used to determine therapeutic success during first year follow-up. A score of less than 3 was required for therapeutic success (3). 201 patients were randomized and followed up for 43 months. Endoscopic balloon dilation showed a great therapeutic success with 90% success rate in
the first year and 86% after two years. The surgical approach showed a 93% success rate in the first year and 90% in second year. Both procedures presented adverse. Endoscopic balloon dilation had a 4% incidence of perforation, while surgical treatment resulted in a 12% perforation rate.

Ellis has described the factors which predispose to failure of cardiomyotomy. They include: longstanding disease, megaesophagus with diameters greater than 4 cm, gastroesophageal reflux, overly tight fundoplication and inappropriate myotomies (4).

DISCUSSION

Achalasia is a rare neurodegenerative disease. The purpose of treatment is to ameliorate dysphagia and regurgitation, improve esophageal emptying and prevent development of megaesophagus and reflux disease (5).

A Heller myotomy with partial antireflux procedure has demonstrated to be the most effective long-term treatment for resolution of symptoms and long-term relief. Tested for 5 years, the persistence the symptomatic improvement has been from 80% to 90%. Over 10 years the rate has been shown to be 70% (6).

The advantage of the surgical procedure is that lower esophageal sphincter hypertonia is corrected with the cardiomyotomy while simultaneously surgery to prevent pathological reflux secondary to myotomy can be performed. The success of laparoscopic treatment demonstrated by improvement of symptoms with minimal complications is due to advanced training that allows the best patient safety. It should be clarified that this surgery does not ease esophageal motility disorder. We look forward to better understanding of the mechanism of this disease that will allow development of treatment to restore esophageal functioning and provide a cure for these patients.

REFERENCES