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ORIGINAL ARTICLE

Laparoscopic graduated cardiomyotomy with anterior fundoplication as treatment for achalasia: experience of 48 cases☆

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KEYWORDS
Achalasia;
Cardiomyotomy;
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Abstract
Introduction and aims: At the Upper Gastrointestinal Tract Clinic of the Hospital General de Mexico, achalasia treatment has been standarized through strictly graduated cardiomyotomy. This procedure guarantees a complete myotomy for the satisfactory resolution of dysphagia, a characteristic symptom of achalasia. To ensure the inclusion of the entire lower esophageal sphincter, an 8 cm Penrose drain is placed at the surgical site 6 cm above the gastroesophageal junction and 2 cm in a caudal direction, for accurate laparoscopic measuring. The aim of our study was to evaluate the results of this technique.
Materials and methods: A descriptive, retrospective, longitudinal, and observational study was conducted on a cohort of patients diagnosed with achalasia at the Upper Gastrointestinal Tract Clinic of the Hospital General de México ''Dr. Eduardo Liceaga''.

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Results: The study included 48 patients, 40 of whom had no prior surgical treatment and 8 that presented with recurrence. Forty-seven patients (97.9%) underwent a laparoscopic procedure and conversion to open surgery was required in 2 of them (4.25% conversion rate). Postoperative progression was satisfactory in all cases, with mean oral diet commencement at 52 h and mean hospital stay of 5.7 days. No recurrence was registered during the mean follow-up period of 35.75 months and there were no deaths.
Conclusions: Laparoscopic graduated (strictly measured) cardiomyotomy with anterior fundoplication is a reproducible, efficacious, and safe option for the surgical treatment of achalasia.

PALABRAS CLAVE
Acalasia;
Cardiomiotomía;
Laparoscopía;
Funduplicatura anterior

Cardiomiotomía graduada con funduplicatura anterior laparoscópica en acalasia, experiencia de 48 casos

Resumen
Introducción y objetivos: En la Clínica de Tracto Digestivo Superior del Hospital General de México, el tratamiento de la acalasia se ha estandarizado mediante la realización de una cardiomiotomía estrictamente graduada que permite garantizar una miotomía completa para resolver de forma satisfactoria la disfagia característica de esta enfermedad. Un penrose de 8 cm, se coloca sobre el lecho quirúrgico, para garantizar la inclusión de todo el EEI, 6 cm por arriba de la UGE y 2 cm en sentido caudal, para asegurar la medición laparoscópica. El objetivo del estudio fue evaluar los resultados obtenidos con esta técnica.
Material y métodos: Estudio descriptivo, retrospectivo, longitudinal, observacional, en una cohorte de pacientes con diagnóstico de acalasia, en la Clínica de Tracto Digestivo Superior, del Hospital General de México «Dr. Eduardo Liceaga».
Resultados: Se incluyeron 48 pacientes; 40 sin tratamiento quirúrgico previo y 8 con recurrencia. En 47 casos el abordaje fue laparoscópico (97.9%); se requirió conversión a procedimiento abierto en 2 casos (tasa conversión 4.25%). La evolución postoperatoria fue satisfactoria en todos los casos, con inicio de la vía oral a las 52 h en promedio y una estancia intrahospitalaria promedio de 5.7 días. Durante el seguimiento de 35.75 meses en promedio no se han registrado recurrencias. No se presentó mortalidad.
Conclusiones: La cardiomiotomía graduada (estrictamente medida) con funduplicatura anterior mediante abordaje laparoscópico es una opción reproducible, eficaz y segura para el tratamiento quirúrgico de la acalasia.

Introduction and aims

Achalasia is a primary motor disorder of the esophagus that is characterized by the absence of esophageal peristalsis and alteration in the lower esophageal sphincter (LES) relaxation in response to swallowing,[1] hindering esophageal emptying and causing gradual proximal esophageal dilation.[2] It was first described in 1674 by Thomas Willis who treated the disease by freeing the obstruction with a whale bone, and it was not until 1913 that Hurst coined the term achalasia.[3,4]

This motility disorder is caused by loss of the inhibitory activity and degeneration of the ganglion cells in the myenteric plexus.[5] The destruction of the inhibitory neurons that produce nitric oxide and vasoactive intestinal peptide is most likely the result of an inflammatory process, whose triggering mechanism is still unknown.[6] Achalasia incidence is less than 1 in 100,000 inhabitants per year and its prevalence is 10 in 100,000, with no preference for race or sex. It mainly affects the 30 to 60-year-old age group.[7,8]

Clinical presentation is characterized by progressive dysphagia, thoracic pain, and the regurgitation of partially digested food, having an important secondary impact on the nutritional status of the patients.[9] High-resolution manometry is the criterion standard for making the diagnosis and categorizing the patients into 3 subtypes to establish and predict response to surgical treatment.[10] Esophagram and endoscopy are complementary studies for this pathology.[8]

Achalasia treatment can be medical, endoscopic, or surgical.[8] Currently, the treatment of choice is the modified Heller cardiomyotomy, associated with an antireflux procedure. At the esophageal clinic of the *Hospital General de México*, treatment has been standardized through laparoscopic graduated (strictly measured) cardiomyotomy with