

**VIDEO-LAPAROSCOPIC ESOPHAGEAL MUCOSECTOMY IN ADVANCED
IDIOPATHIC MEGAESOPHAGUS: A CASE REPORT****MUCOSECTOMIA ESOFÁGICA VIDEOLAPAROSCÓPICA NO MEGAESÔFAGO
AVANÇADO IDIOPÁTICO: RELATO DE CASO****MUCOSECTOMÍA ESOFÁGICA VIDEOLAPAROSCÓPICA EN MEGAESÓFAGO
IDIOPÁTICO AVANZADO: REPORTE DE CASO** <https://doi.org/10.56238/sevened2025.028-007>**Paulo Sergio Chaib¹, Gloria Maria Tedrus², Jose Luiz Braga Aquino³ and Jose
Alexandre Mendonça⁴****ABSTRACT**

Introduction: Advanced idiopathic megaesophagus is a condition with high morbidity and mortality, whose type of surgical procedure is still controversial. Case report: A 41-year-old patient with a clinical history of advanced megaesophagus (stage IV), onset 4 years ago, confirmed by clinical, radiological, and manometric parameters. The patient underwent laparoscopic esophageal mucosectomy by the abdominal approach combined with cervicotomy, without complications and with good recovery in the immediate postoperative period, and without complications after one year of follow-up. Conclusion: Laparoscopic esophageal mucosectomy proved to be a good surgical technique option for advanced idiopathic megaesophagus, with low morbidity in the immediate postoperative period and after one year of follow-up.

Keywords: Esophageal Achalasia. Esophagectomy. Laparoscopy.

RESUMO

Introdução: O megaesôfago idiopático avançado é uma condição com alta morbidade e mortalidade, cujo tipo de procedimento cirúrgico ainda é controverso. Relato de caso: Paciente de 41 anos com história clínica de megaesôfago avançado (estágio IV), de início há 4 anos, confirmado por parâmetros clínicos, radiológicos e manométricos. O paciente foi submetido à mucosectomia esofágica laparoscópica por via abdominal combinada com cervicotomia, sem complicações e com boa recuperação no pós-operatório imediato e sem complicações após um ano de acompanhamento. Conclusão: A mucosectomia esofágica laparoscópica demonstrou ser uma boa opção de técnica cirúrgica para megaesôfago

¹ Pontifical Catholic University, Graduate Program in Health Sciences - Campinas - SP - Brazil
Case Reports Cir. 2023; 9(3):E3496

E-mail: pschaib@gmail.com

² Pontifical Catholic University, Graduate Program in Health Sciences - Campinas - SP - Brazil
Case Reports Cir. 2023; 9(3):E3496

E-mail: gmtedrus@uol.com.br Orcid: <https://orcid.org/0000-0002-3994-2113>

³ Pontifical Catholic University, Graduate Program in Health Sciences - Campinas - SP - Brazil
Case Reports Cir. 2023; 9(3):E3496

E-mail: jlaquino@sigmanet.com.br Orcid: <https://orcid.org/0000-0002-0604-9054>

⁴ Pontifical Catholic University, Graduate Program in Health Sciences - Campinas - SP - Brazil
Case Reports Cir. 2023; 9(3):E3496

E-mail: alexandre@josealexandre.com Orcid: <https://orcid.org/0000-0003-1689-6705>

idiopático avançado, com baixa morbidade no pós-operatório imediato e após um ano de acompanhamento.

Palavras-chave: Acalasia Esofágica. Esofagectomia. Laparoscopia.

RESUMEN

Introducción: El megaesófago idiopático avanzado es una entidad con alta morbilidad y mortalidad, cuyo tipo de procedimiento quirúrgico aún es controvertido. Caso clínico: Paciente de 41 años con historia clínica de megaesófago avanzado (estadio IV) de 4 años de evolución, confirmado mediante parámetros clínicos, radiológicos y manométricos. El paciente fue sometido a mucosectomía esofágica laparoscópica por vía abdominal combinada con cervicotomía, sin complicaciones y con buena recuperación en el postoperatorio inmediato y sin complicaciones al año de seguimiento. Conclusión: La mucosectomía esofágica laparoscópica demostró ser una buena opción técnica quirúrgica para el megaesófago idiopático avanzado, con baja morbilidad en el postoperatorio inmediato y al año de seguimiento.

Palabras clave: Acalasia Esofágica. Esofagectomía. Laparoscopia.

1 INTRODUCTION

Idiopathic advanced megaesophagus is a rare disease characterized by alteration of esophageal motility associated with esophageal dilatation, with progressive clinical manifestation of difficulty in swallowing, dysphagia, regurgitation of food, heartburn, and weight loss and with severe clinical repercussions¹.

Endoscopic or surgical myotomy and pneumatic dilation are the surgical techniques with good results in non-advanced megaesophagus, whether of chagasic or idiopathic origin, however, these procedures are poorly responsive in advanced disease^{2,3}. Esophagectomy proved to be the most appropriate procedure, as it treats the disease as a whole, and the transmediastinal technique is the most recommended to avoid the obstacle of thoracotomy^{1,4}.

Among the surgical approaches, the technique of esophageal mucosectomy with conservation of the muscle tunic, which spares the mediastinal approach, was described by Aquino et al, and presents good results in the early and long-term postoperative periods, with low rates of complications and morbidity⁵⁻⁷.

With the advent of videolaparoscopy, benefits have been demonstrated because it is a minimally invasive technique and less surgical trauma, which has led to the fact that this technique began to be used as an access route for esophagectomy without thoracotomy in patients with advanced megaesophagus^{8,9}. However, mucosectomy Esophageal analysis by videolaparoscopy in a patient with advanced and idiopathic megaesophagus has not yet been described. Thus, this case report aims to evaluate and discuss the feasibility of this variation of the surgical technique of esophageal mucosectomy in idiopathic advanced megaesophagus.

2 CASE REPORT

A 41-year-old male patient was diagnosed with idiopathic advanced grade IV megaesophagus with stratified surgical risk - ASA II, by clinical, radiological and esophageal manometry parameters. The patient has already undergone two pneumatic dilation procedures 4 years ago, with temporary symptomatic improvement.

At the PUC-Campinas hospital, the patient underwent clinical and laboratory evaluation. At the preoperative examination, the clinical parameters used by Eckardt et al.¹⁰ showed

dysphagia with a score of 3, regurgitation with a score of 3, chest pain with a score of 2, and weight loss of 11 kilos in 6 months, confirming a score of 3 for this parameter, which totals a score of 11. In the radiological parameters, according to the classification of Rezende et al.¹¹, esophageal dilation greater than 7 cm, esophageal axis deviation (dolichomegaesophagus) and cardia narrowing with difficulty in emptying were demonstrated. The manometric parameters showed no peristalsis of the esophageal body with an amplitude of less than 20 mmHg and lack of relaxation of the lower esophageal sphincter. Immunofluorescence for Chagas in three samples was negative, and complementary examination showed absence of heart disease and megacolon and did not come from an endemic area of Chagas.

After the diagnosis was confirmed, the patient was informed of the proposal for a surgical procedure, as well as of his participation in the research, and after confirming his interest, he signed the consent form. The project was approved by the Research Ethics Committee of PUC-Campinas (CAAE 5162332130000548; Opinion No. 5261176, of 02/24/2022).

The patient underwent laparoscopic esophageal mucosectomy surgery through the abdominal route and the cervical time was performed by conventional approach to the esophagus at this level. The surgical procedure was performed according to the surgical technique described by Aquino et al.⁵ (Figures 1, 2 and 3).

In the early evaluation of 30 postoperative days, there was eismescence of the cervical esophagogastric anastomosis with consequent fistula on the third day, but showed good clinical evolution, after conservative treatment and closure of the same on the 17th day. In the late evaluation at six and twelve months postoperatively, the patient had a good clinical evolution, with no symptoms and a score of 2 in the criteria of Eckardt et al.¹⁰.

Figure 1

Dissection of the mucosa of the cervical and abdominal esophagus.

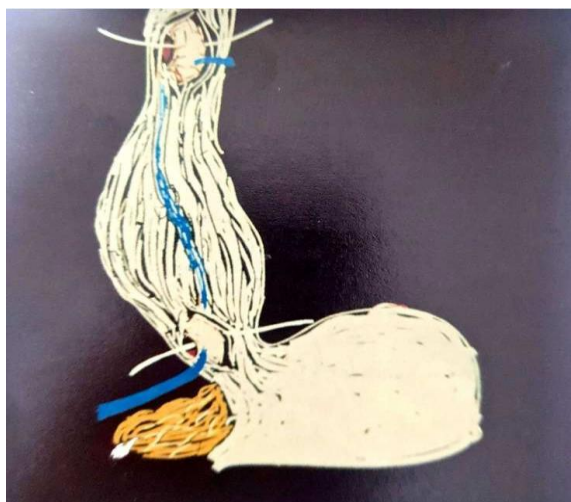


Figure 2

Removal of the esophageal mucosa from inside the muscular tunic by caudal cranial invagination.

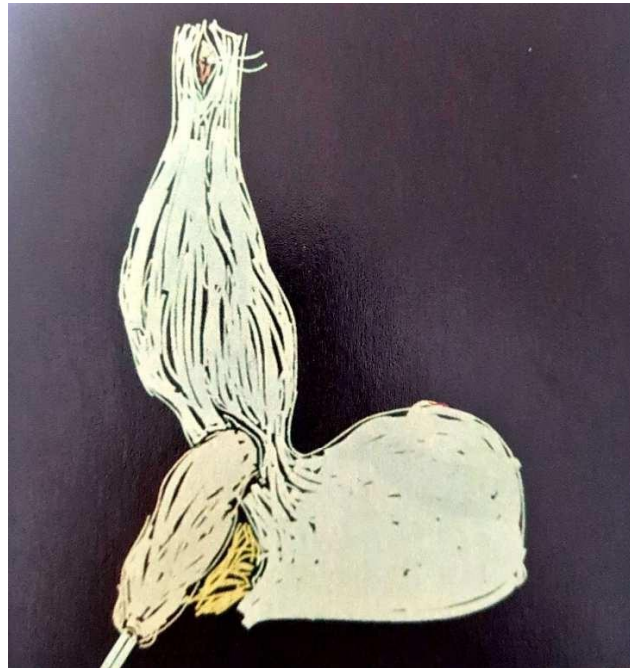


Figure 3

Preparation of the stomach for reconstruction of the digestive transit with transposition to the cervical region inside the esophageal muscular tunic and cervical esophagogastric anastomosis with mechanical suture.



3 DISCUSSION

Idiopathic advanced megaesophagus is a disease with severe clinical and nutritional repercussions with high rates of morbidity and mortality, and the therapeutic approach

remains a challenge. Surgical procedures represent the best form of treatment. The advent of esophageal mucosectomy through the cervicoabdominal route Combined without thoracotomy, for advanced megaesophagus of chagasic origin proved to be adequate because it has a lower rate of morbidity and recurrence in one year, and is the technique routinely used in the digestive system surgery service of the PUC-Campinas hospital, as described by other authors^{5-7,12,13}.

However, there are still few studies describing this surgical technique with the use of videolaparoscopy, a minimally invasive surgery, in the treatment of advanced megaesophagus. Thus, the report of this case is justified because it demonstrates that the technique of laparoscopic esophageal mucosectomy proved to be viable, as it presented less surgical trauma and better recovery, it presented benefits in the immediate and late postoperative periods. However, further studies with a large sample are needed to compare the surgical results with the technique conventional with videolaparoscopy in the surgical treatment of idiopathic advanced megaesophagus.

REFERENCES

- Aquino, J. L. B., Reis Neto, J. A., Muraro, C. L. P. M., & Camargo, J. G. T. (2000). Mucosectomia esofágica no tratamento do megaesôfago avançado: Análise de 60 casos. *Revista do Colégio Brasileiro de Cirurgias*, 27(2), 109–116.
- Aquino, J. L. B., Said, M. M., & De Camargo, J. G. T. (2017). Non-conventional surgical approach to achalasia: Mucosectomy and endomuscular pull-through. *Mini-Invasive Surgery*, 1, 167–172. <https://doi.org/10.20517/2574-1225.2017.29>
- Aquino, J. L. B., Said, M. M., & Fernandes, P. R. (2007). Avaliação tardia da mucosectomia esofágica com conservação da túnica muscular em pacientes com megaesôfago avançado. *Revista do Colégio Brasileiro de Cirurgias*, 34(1), 9–15. <https://doi.org/10.1590/S0100-69912007000100004>
- Aquino, J. L. B., Said, M. M., Pereira, D. A. R., Amaral, P. C., Lima, J. C. A., & Leandro-Merchi, V. A. (2015). Surgical treatment analysis of idiopathic esophageal achalasia. *ABCD Arquivos Brasileiros de Cirurgia Digestiva*, 28(2), 98–101. <https://doi.org/10.1590/S0102-6720201500020003>
- Cecconello, I., Domene, C. E., Sallum, R. A. A., & Pinotti, H. W. (1988). Esofagectomia transmediastinal no megaesôfago. *Revista do Colégio Brasileiro de Cirurgias*, 15, 76–81.
- Costa, L. C. D., Braga, J. G. R., Junior, V. T., Coelho Neto, J. S., Ferrer, J. A. P., Lopes, L. R., ... & Andreollo, N. A. (2020). Tratamento cirúrgico do megaesôfago recidivado. *Revista do Colégio Brasileiro de Cirurgias*, 47, e20202444. <https://doi.org/10.1590/0100-69912020000006>
- Crema, E., Ribeiro, L. B. P., Souza, R. C., Terra-Júnior, J. A., Silva, B. F., Silva, A. A., ... & Queiroz, L. S. (2009). Esofagectomia transhiatal laparoscópica para o tratamento do

megaesôfago avançado – Análise de 60 casos. *Revista do Colégio Brasileiro de Cirurgias*, 36(2), 118–122. <https://doi.org/10.1590/S0100-69912009000200005>

Eckardt, V. F., Gockel, I., & Bernhard, G. (2004). Pneumatic dilation for achalasia: Late results of a prospective follow-up investigation. *Gut*, 53(5), 629–633. <https://doi.org/10.1136/gut.2003.029298>

Fontan, A. J. A., Batista Neto, J., Pontes, A. C. P., Nepomuceno, M. C., Muritiba, T. G., & Furtado, R. S. (2018). Minimally invasive laparoscopic esophagectomy vs. transhiatal open esophagectomy in achalasia: A randomized study. *ABCD Arquivos Brasileiros de Cirurgia Digestiva*, 31(3), e1382. <https://doi.org/10.1590/0102-672020180001e1382>

Orringer, M. B., Marshall, B., & Stirling, M. C. (1993). Transhiatal esophagectomy for benign and malignant disease. *The Journal of Thoracic and Cardiovascular Surgery*, 105(2), 265–276.

Ponds, F. A., Fockens, P., & Lei, A. (2019). Effect of peroral endoscopic myotomy vs pneumatic dilation on symptom severity and treatment outcomes among treatment-naïve patients with achalasia: A randomized clinical trial. *JAMA*, 322(2), 134–144. <https://doi.org/10.1001/jama.2019.8859>

Rezende, J. M., Lauar, K. M., & Oliveira, A. R. (1960). Aspectos clínicos e radiológicos da aperistalse do esôfago. *Revista Brasileira de Gastroenterologia*, 12, 247–251.

Vaezi, M. F., Pandolfino, J. E., Yadlapati, R. H., Greer, K. B., & Kavitt, R. T. (2020). ACG clinical guidelines: Diagnosis and management of achalasia. *The American Journal of Gastroenterology*, 115(9), 1393–1411. <https://doi.org/10.14309/ajg.0000000000000731>