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CASE REPORT: POST-CARDIOPLASTY GROHNDAL FISTULA WITH ANTRECTOMY AND ROUX-EN-Y RECONSTRUCTION (SERRA DÓRIA TECHNIQUE) - ENDOSCOPIC VACUUM APPROACH AS AUXILIARY THERAPY

RELATO DE CASO: FÍSTULA PÓS-CARDIOPLASTIA A GROHNDAL COM ANTRECTOMIA E RECONSTRUÇÃO EM Y DE ROUX (TÉCNICA DE SERRA DÓRIA) - ABORDAGEM COM VÁCUO ENDOSCÓPICO COMO TERAPÊUTICA AUXILIAR

REPORTE DE CASO: FÍSTULA DE GROHNDAL POST-CARDIOPLASTIA CON ANTRECTOMÍA Y RECONSTRUCCIÓN DE ROUX-EN-Y (TÉCNICA DE SERRA DÓRIA) - ABORDAJE ENDOSCÓPICO DE VACÍO COMO TERAPIA AUXILIAR

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ABSTRACT

Case report of a 63-year-old male patient diagnosed with Chagas disease group IV megaesophagus who underwent elective surgery using the Grohndal technique, antrectomy, and Roux-en-Y reconstruction (Serra Dória). He developed an esophageal fistula postoperatively, which was managed with surgical drainage and, subsequently, with endoscopic vacuum, the tube being manually created. The patient showed progressive clinical improvement, with resolution of the infectious condition and hospital discharge. This case illustrates the applicability and safety of endoluminal negative pressure therapy in complex postoperative settings.

Keywords: Endoscopic Vacum. Esophageal Fistula. Chagas Disease Megaesophagus. Roux-en-Y Reconstruction. Digestive Tract Surgery.

RESUMO

Relato de caso de paciente masculino, 63 anos, com diagnóstico de megaesôfago chagásico grupo IV, submetido à cirurgia eletiva com técnica de Grohndal + antrectomia e reconstrução em Y de Roux (Serra Dória). Evoluiu com fístula esofágica no pós-operatório, manejada com drenagem cirúrgica e, posteriormente, com vácuo endoscópico, cuja sonda foi confeccionada manualmente. O paciente apresentou melhora clínica progressiva, com resolução do quadro infeccioso e alta hospitalar. O caso ilustra a aplicabilidade e a segurança da terapia por pressão negativa endoluminal em contextos complexos pós-operatórios.

Palavras-chave: Vácuo Endoscópico. Fístula Esofágica. Megaesôfago Chagásico. Reconstrução Y de Roux. Cirurgia do Aparelho Digestivo.

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RESUMEN
Reporte de caso de un paciente masculino de 63 años con diagnóstico de megaesófago chagásico grupo IV, sometido a cirugía electiva mediante la técnica de Grohndal + antrectomía y reconstrucción en Y de Roux (Serra Dória). Desarrolló una fístula esofágica postoperatoria, tratada con drenaje quirúrgico y posteriormente con aspiración endoscópica al vacío, cuya sonda se construyó manualmente. El paciente presentó una mejoría clínica progresiva, con resolución del cuadro infeccioso y alta hospitalaria. Este caso ilustra la aplicabilidad y seguridad de la terapia de presión negativa endoluminal en contextos postoperatorios complejos.

Palabras clave: Vacío Endoscópico. Fístula Esofágica. Megaesófago Chagásico. Reconstrucción en Y de Roux. Cirugía del Tracto Digestivo.

1 INTRODUCTION

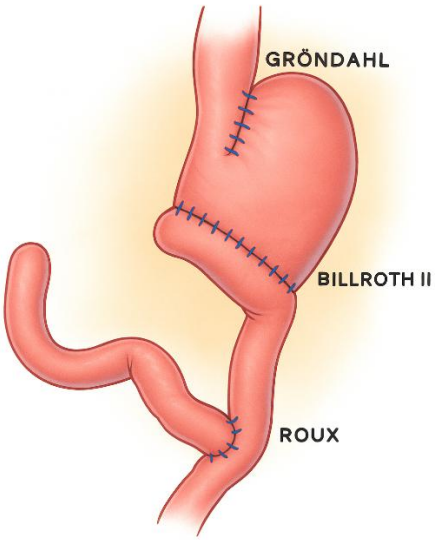
Fistulas after esophageal surgical approaches represent serious complications in the postoperative period of esophagogastric surgeries. Endoscopic vacuum has been gaining ground as a minimally invasive and effective option for the management of these lesions, promoting continuous drainage and favoring tissue healing of raffias and surgical anastomoses. This report describes the practical application of endoscopic vacuum, with manual assembly of the probe, in a case of post-cardioplasty esophageal fistula in a patient with chagasic megaesophagus.

2 CASE REPORT

A 63-year-old male patient, farmer, with a history of dysphagia for 30 years with symptomatic recurrence in the last seven years. Diagnosed with chagasic megaesophagus group IV, he underwent Grohndal cardioplasty associated with antrectomy with Roux-en-Y reconstruction (Serra Dória, Figure 1), at the Goiás Emergency Hospital (HUGO), in November 2023.

Figure 1

Grohndal Cardioplasty with Anthrectomy and Roux-en-Y Reconstruction (Doria Saw Technique)



Source: Authors.

In the first postoperative days, the patient developed a distal esophageal fistula, confirmed by Upper Digestive Endoscopy (UGI) performed on December 21, 2023,

associated with intra-abdominal infection, septic shock, and the need for prolonged intensive care. In view of the persistence of the output through the fistulous orifice, we opted for an approach with endoluminal negative pressure therapy (endoscopic vacuum).

The probe used in the endoscopic vacuum was assembled by hand by medical professionals using a tubular drain (Nasogastric Tube), gauze and latex cover (Figure 2), inserted under endoscopic visualization and maintained with continuous negative pressure (Figure 3) in the fistula region in the Grohndal region. There was a progressive improvement in the patient's clinical conditions, with resolution of sepsis, removal of drains, probes, and hospital discharge occurred on February 21, 2024.

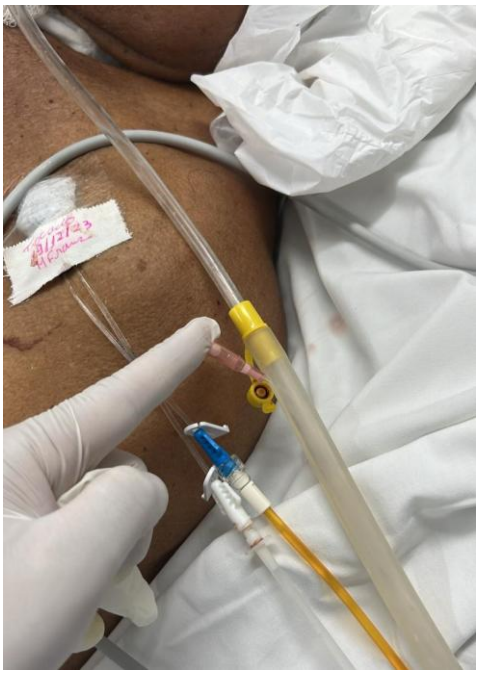
Figure 2

Probe for endoscopic vacuum installation

Source: Authors.

Figure 3

Negative pressure in endoscopic vacuum



Source: Authors.

At the last outpatient return visit on December 3, 2024, he was asymptomatic, with good food acceptance. On physical examination of the abdomen, the presence of an incisional hernia was presented, which was decided to be managed conservatively.

3 DISCUSSION

Post-surgical fistulas of the upper gastrointestinal tract, resulting from complex procedures such as those involving gastric resections and esophagojejunal reconstructions (such as a potential variation of the Serra Dória technique or similar procedures that culminate in a Roux-en-Y reconstruction), represent a serious complication, associated with high rates of morbidity and mortality. Its formation can be attributed to factors such as tissue ischemia, excessive tension in the anastomosis line, infection, and patient comorbidities. Early detection and proper management are crucial for prognosis.

Historically, the treatment of postoperative fistulas was predominantly conservative or surgical, with variable success rates and often invasive procedures. However, advances in endoscopic techniques have revolutionized the approach to these complications.

Endoscopic Vacuum-Assisted Closure (EVT), also known as Endoscopic Vacuum-Assisted Closure (E-VAC), has established itself internationally as the first-line approach for the treatment of dehiscences and fistulas in post-surgical cavities of the upper gastrointestinal

tract (TGS), particularly after complex esophagectomy and gastectomies. Its superiority over traditional methods such as stents or clips lies in its ability to promote endoscopic-guided secondary closure by actively removing septic contents and stimulating angiogenesis and granulation.

Endoscopic vacuum therapy (EVT) has emerged as a promising and minimally invasive therapeutic modality for the management of fistulas, anastomotic dehiscence, and postoperative intra-abdominal fluid collections in the upper gastrointestinal tract (Gonçalves et al., 2022). The technique consists of placing a polyurethane sponge directly in the fistula cavity or in the area of dehiscence, connected to a continuous aspiration system that applies negative pressure.

Several systematic reviews and meta-analyses published by international endoscopy groups have demonstrated the robust efficacy of EVT. A comprehensive meta-analysis focused on anastomotic dehiscences of TGS (including esophagus and stomach) reported technical and clinical success rates ranging from 75% to 90%, with the mean time to treatment (duration of EVT) being crucial, usually necessitating 3 to 5 sponge changes per week. The high rate of primary fistula closure achieved with EVT, even in high-output fistulas or those with large perianastomotic collections, significantly reduces the need for exploratory laparotomy and prolonged Intensive Care Unit (ICU) stays (Lahat et al., 2020; Schwaiger et al., 2021).

The mechanism of action of endoscopic vacuum is based on the continuous removal of exudates, promotion of tissue granulation, reduction of local edema, and approximation of the lesion borders. This creates an environment conducive to healing and closure of the fistula, avoiding the need for surgical reinterventions in many cases. Recent studies and systematic reviews have demonstrated high success rates in closing esophageal and gastric anastomotic fistulas with the use of EVT, with lower morbidity compared to conventional surgical approaches (Costa et al., 2023). The applicability of EVT, therefore, extends to fistulas that may arise after complex gastric reconstruction procedures, such as those resulting in a Roux-en-Y, regardless of the specific nomenclature of the primary procedure.

Compared to *stent placement*, EVT has been shown to have a lower risk of migration and a superior efficacy in closing wide dehiscences or fistulas that communicate with cavities (Schlottmann et al., 2022). The vacuum effect, which typically ranges from 50 to 125 mmHg of negative pressure, not only drains the secretion, but also induces a centripetal traction force that facilitates the approximation of the lesion margins, promoting tissue remodeling. In

cases of gastric fistulas, such as those that may arise after gastrectomy with Roux-en-Y reconstruction (situations analogous to Post-Cardioplasty Fistula to Grohndal and Antrectomy), EVT is considered the gold standard treatment, especially when the fistula is confined or has a well-defined communication with the gastric or jejunal lumen (Bonavina et al., 2022).

Recent literature has emphasized the application of EVT in settings of infection and confined necrosis, where drainage and endoscopic debridement are essential. Endoscopic vacuum treatment has been shown to be particularly beneficial in dehiscences located in the cardia region or close to the esophagojejunal anastomosis, areas that are difficult to access and repair surgically. Its early use — ideally within 48 to 72 hours after fistula diagnosis — is associated with the best prognostic outcomes, decreasing systemic inflammation and accelerating the transition to the granulation and epithelialization phase (Probst et al., 2023).

4 CONCLUSION

Endoscopic vacuum therapy is a viable and safe alternative in the management of complex esophageal fistulas. Its manual and adapted application proved to be effective in this case, contributing to the clinical recovery of the patient without the need for surgical reapproach.

REFERENCES

Bonavina, L., et al. (2022). Endoscopic management of complications after bariatric and metabolic surgery. World Journal of Gastrointestinal Surgery.

Costa, P. H. S., Almeida, V. L., & Silva, R. A. (2023). Terapia de vácuo endoscópico no manejo de deiscências anastomóticas gastrointestinais: Uma revisão sistemática. Revista Brasileira de Endoscopia Digestiva, 25(2), 78-85.

Gonçalves, L. M., Fernandes, E. F., & Pinto, C. D. (2022). O papel da terapia de vácuo endoscópico no tratamento de fístulas esofágicas e gástricas pós-cirúrgicas. Arquivos Brasileiros de Cirurgia Digestiva, 35, e1664.

Lahat, G. J., et al. (2020). Endoscopic vacuum therapy for gastrointestinal leakages and perforations: a systematic review and meta-analysis. Gastrointestinal Endoscopy.

Probst, P., et al. (2023). Early application of endoscopic vacuum therapy improves treatment success in anastomotic leakages after upper gastrointestinal surgery. Surgical Endoscopy.

Schwaiger, J., et al. (2021). Endoscopic vacuum therapy for upper gastrointestinal perforations and leakages: an international multicenter study. Endoscopy.

Schlottmann, F., et al. (2022). Comparative effectiveness of endoscopic vacuum therapy versus self-expanding metal stents for anastomotic leak after esophagectomy: a systematic review and meta-analysis. Diseases of the Esophagus.