Case Reports in Emergency Surgery and Trauma

Case Reports in Emergency Surgery and Trauma 2026; 4:56
doi:10.4081/crest.2026.56

Multidisciplinary management of complicated Boerhaave syndrome: case report and systematic review of the literature

Rebecca Filios,[1,2*] Giulia Delnevo,[1,2*] Simone Frassini,[1,2] Jacopo Viganò,[1,2] Paola Fugazzola,[1,2] Ahmed Ghaly,[1,2] Marco Bardone,[3] Riccardo Corti,[4] Claudia Nava,[1,2] Andrea Dagnoni,[1,2] Nikolaos Markou Pappas,[1,2] Luca Ansaloni[1,2]

[1]University of Pavia; [2]Unit of General Surgery I, Fondazione IRCCS Policlinico San Matteo, Pavia; [3]Gastroenterology and Endoscopy Unit, Fondazione IRCCS Policlinico San Matteo, Pavia; [4]Unit of Interventional Radiology, Fondazione IRCCS Policlinico San Matteo, Pavia, Italy

**These authors contributed equally to this work and share first authorship.*

Abstract

Boerhaave syndrome is a rare and potentially fatal condition caused by spontaneous esophageal rupture. Although early surgical repair is generally preferred, alternative approaches, including endoscopic stenting, minimally invasive surgery, or conservative management, have increasingly been adopted in selected patients. We report a complex clinical case and present a systematic review focusing on the multidisciplinary management of Boerhaave syndrome. A 59-year-old male presented with acute chest pain after vomiting. Contrast-enhanced computed tomography (CT) revealed pneumomediastinum, bilateral pleural effusions, and a peri-esophageal fluid collection. Endoscopy confirmed a posterior esophageal perforation. The patient underwent emergency endoscopic stenting, laparoscopic esophageal repair, mediastinal debridement, gastrostomy, and jejunostomy. Postoperative complications included mediastinitis, bilateral pneumonia, and esophago-pleural fistula. Additional interventions, including video-assisted thoracoscopic surgery (VATS), percutaneous drainage, and fistula embolization, were required. The patient ultimately fully recovered and was discharged in stable condition. A systematic literature review was conducted using the PubMed, Scopus, and Web of Science databases. Studies reporting clinical outcomes of surgical, endoscopic, minimally invasive, conservative, or combined multidisciplinary treatment of spontaneous esophageal perforation were included. Twelve studies were incorporated into a narrative synthesis. The primary outcome was mortality; secondary outcomes included morbidity, need for reintervention, infection, and length of hospital stay. Early diagnosis and treatment were consistently associated with improved survival, whereas delayed diagnosis was linked to higher mortality. Surgical repair with adequate drainage remained central in early or septic presentations. Minimally invasive and endoscopic approaches demonstrated favorable outcomes in selected patients when integrated into multidisciplinary pathways. This study supports individualized, multidisciplinary management of Boerhaave syndrome, integrating surgical, endoscopic, and radiologic strategies to optimize outcomes.

Key words: Boerhaave syndrome, spontaneous esophageal rupture, esophageal perforation, multidisciplinary treatment, team-based care.

Correspondence to: Rebecca Filios, MD, University of Pavia, Corso Strada Nuova 65, 27100 Pavia, Italy.
E-mail: rebecca.filios01@universitadipavia.it

Introduction

Boerhaave syndrome is a spontaneous, full-thickness rupture of the esophageal wall, most commonly triggered by a sudden and severe rise in intraesophageal pressure following forceful vomiting or retching, a mechanism first described by Hermann Boerhaave in 1724.[1] Although it accounts for less than 15% of all esophageal perforations,[2] it represents the most lethal form, with historically reported mortality rates exceeding 40% and reaching up to 60% in cases of delayed diagnosis.[3,4] The rarity of the condition, combined with its highly variable and often nonspecific clinical presentation – ranging from chest pain and dyspnea to abdominal discomfort or sepsis – frequently leads to diagnostic delays that significantly worsen prognosis.[5]

The pathophysiology of Boerhaave syndrome involves a sudden pressure gradient between the esophageal lumen and surrounding structures, causing a transmural tear, typically in the left posterolateral distal esophagus.[6] Once perforation occurs, rapid contamination of the mediastinum and pleural spaces leads to mediastinitis, systemic inflammatory response, and potentially fulminant sepsis. Early and accurate diagnosis is therefore crucial and relies on a combination of contrast-enhanced computed tomography (CT), esophagography, and, when indicated, upper endoscopy.[7,8]

Management strategies for Boerhaave syndrome have evolved

considerably over the past two decades. Traditional open surgical repair remains the cornerstone of treatment in unstable patients or those with extensive contamination.[9] However, growing evidence supports the use of minimally invasive techniques, such as thoracoscopic and laparoscopic repair, which have demonstrated reductions in morbidity and postoperative complications in selected patients.[10] Endoscopic approaches, including covered self-expanding metal stents (SEMS), endoscopic vacuum therapy (EVT), and over-the-scope clips, have emerged as valuable alternatives, particularly for contained leaks or in patients with significant comorbidities.[11,12] Additionally, interventional radiology plays a crucial role in managing associated collections, providing percutaneous drainage that can be integrated into a step-up, multidisciplinary, and multimodal therapeutic strategy.[13]

Contemporary management, thus, increasingly emphasizes a multidisciplinary approach involving general and thoracic surgeons, gastroenterologists, endoscopists, interventional radiologists, and critical care specialists.[14] Such coordinated care has been associated with improved outcomes, especially in complex or delayed presentations.

This study reports a clinically challenging case of Boerhaave syndrome managed using an integrated, multidisciplinary treatment strategy and presents a systematic review of the literature evaluating outcomes of multimodal, minimally invasive, and combined therapeutic approaches.

Case Report

A 59-year-old male with a history of chronic alcohol abuse and hyperuricemia presented to the Emergency Department with sudden-onset severe interscapular chest pain following a single episode of forceful vomiting. Contrast-enhanced CT of the chest and abdomen revealed extensive posterior pneumomediastinum, periesophageal air, marked esophageal dilation, active contrast extravasation at the distal esophagus, and bilateral pleural effusions, consistent with spontaneous esophageal perforation (Boerhaave syndrome) (Figure 1). The patient rapidly developed hemodynamic instability with hypovolemic shock and was admitted to the Intensive Care Unit (ICU).

On the same day, upper endoscopy confirmed a large posterior transmural defect 40 cm from the dental arches, with direct exposure of the mediastinum. A covered SEMS was placed endoscopically and secured with proximal clips.

Subsequently, emergency laparoscopic surgery was performed (Figure 2). Intraoperative findings revealed marked gastric dilatation due to the presence of copious gastric contents; therefore, with endoscopic assistance, a gastro-lavage tube was positioned, achieving partial gastric decompression. Exploration of the esophageal wall identified a linear laceration measuring approximately 2.5 cm, located in the right paramedian region and involving the distal abdominal esophagus immediately above the cardia. The previously placed endoscopic stent was clearly visualized (Figure 3).

Primary closure of the esophageal laceration was performed using absorbable barbed sutures (V-Loc™), securing the endoscopic stent to the suture at the loop closest to the gastroesophageal junction.

This was followed by extensive mediastinal lavage, creation of a decompressive gastrostomy, placement of a feeding jejunostomy, and bilateral chest tube placement. Three abdominal drains were positioned in the inferior mediastinum and periesophageal region.

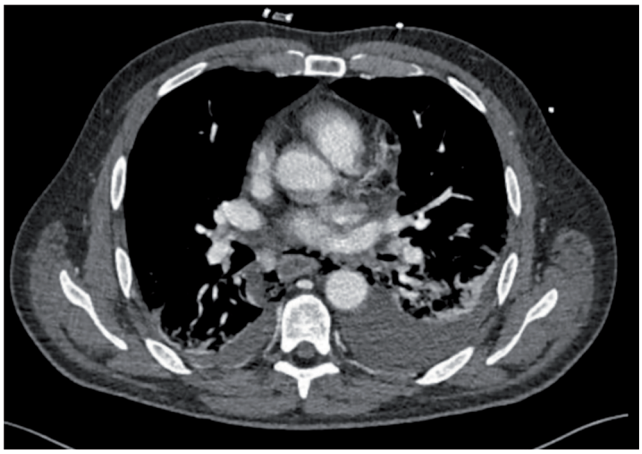

Figure 1. Initial contrast-enhanced CT scan showing pneumomediastinum and bilateral pleural effusions consistent with spontaneous esophageal perforation.

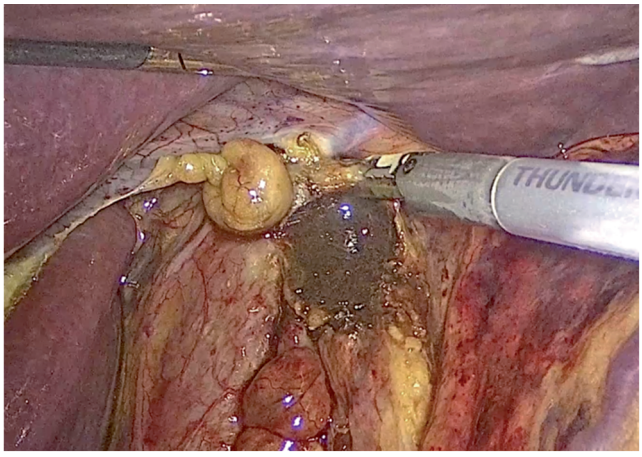

Figure 2. Intraoperative laparoscopic view.

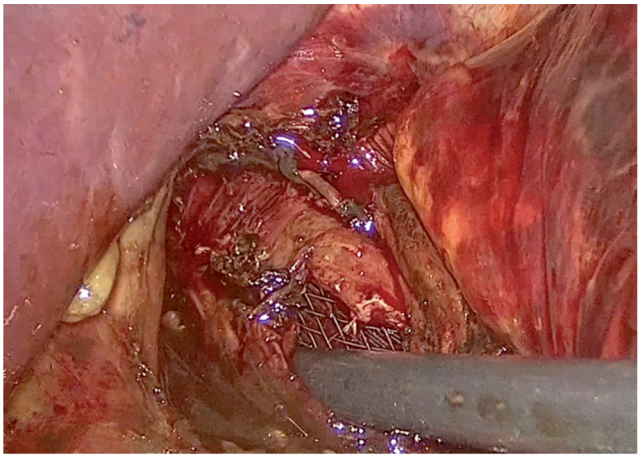

Figure 3. Intraoperative exposure of SEMS.

Following a brief period of mechanical ventilation, the patient was extubated and transferred to the surgical ward.

On post-operative day (POD) 7, the patient was readmitted to the ICU due to acute hypoxemic respiratory failure in the setting of mediastinitis and persistent pleural contamination. Despite high-flow nasal oxygen and non-invasive ventilation, respiratory function deteriorated, necessitating endotracheal intubation on POD 9. Broad-spectrum antimicrobial therapy (meropenem and linezolid) and empirical antifungal treatment with fluconazole were initiated. CT imaging demonstrated a large, organized left pleural empyema (Figure 4) with persistent inflammatory changes. Given the septic state and inadequate source control, surgical intervention was indicated.

On POD 10, the patient underwent urgent left-sided video-assisted thoracoscopic surgery (VATS) with pleural debridement and pulmonary decortication. Intraoperative findings revealed stage II empyema with dense adhesions and thickened visceral pleura. Extensive lavage was performed, and two large-bore chest drains were placed. Intraoperative cultures grew *Saccharomyces cerevisiae*, confirming fungal superinfection and justifying continuation of antifungal therapy.

The patient required prolonged ICU support, including mechanical ventilation for 11 days, vasopressor support for septic shock and aggressive respiratory physiotherapy. The total ICU length of stay was 18 days. Gradual clinical improvement followed, with resolution of sepsis, progressive pulmonary re-expansion, and reduction of pleural collections on serial imaging. Enteral nutrition *via* jejunostomy was well tolerated, and abdominal drains were progressively removed. The patient was transferred back to the surgical ward.

Despite initial clinical improvement, the patient developed persistent fever and elevated inflammatory markers during the late post-operative period. A contrast-enhanced CT scan performed during follow-up (approximately 7 weeks after admission) demonstrated a residual peri-esophageal fluid collection with evidence of a left esophago-pleural fistula, in continuity with the previously drained pleural space (Figure 5).

A repeat upper endoscopy confirmed partial malposition of the previously placed esophageal stent, with incomplete sealing of the distal esophageal defect. Endoscopic repositioning of the covered SEMS was therefore performed, achieving improved coverage of the fistulous orifice.

Given the persistence of the fistulous tract and associated collection, CT-guided percutaneous drainage of the fistulous cavity was performed, followed by cyanoacrylate glue embolization of the esophago-pleural fistula tract, achieving complete occlusion of the communication.

Following embolization, the patient showed rapid clinical improvement, with defervescence, normalization of inflammatory markers, and progressive reduction of pleural output. Serial imaging confirmed resolution of the peri-esophageal collection and definitive closure of the fistula, without further contrast extravasation. Rehabilitation and nutritional optimization were completed.

The patient was discharged in good clinical condition. The total hospital length of stay was 66 days. At follow-up, the patient remained asymptomatic, with preserved esophageal continuity and no evidence of recurrent infection or fistula formation.

Literature review

A comprehensive literature search was conducted using the Scopus, PubMed, and Web of Science databases from inception to May 1, 2025, without any time restrictions. Search terms included "Boerhaave syndrome", "spontaneous esophageal rupture", "esophageal perforation", "multidisciplinary treatment", "combined modality therapy", "integrated care", "treatment outcome", "length of stay", and "survival rate", combined with relevant Medical Subject Headings terms and Boolean operators. The complete search strategy for each database is reported in *Supplementary Material*. Reference lists of included studies and relevant reviews were manually screened to identify additional eligible articles.

Two reviewers (RF, GD) independently screened titles and abstracts. Studies were considered eligible if they included adult patients with spontaneous esophageal perforation and reported clinical outcomes following surgical, endoscopic, radiologic, conservative, or combined multidisciplinary treatment. Studies focusing exclusively on single-discipline management, oncologic populations, foreign body perforations, or unrelated outcomes were excluded. Narrative and systematic reviews were included for contextual and interpretative purposes only but were not used for outcome extraction. Disagreements were resolved by consensus with senior reviewers (LA, SF).

The initial search yielded 305 records. After removal of dupli-

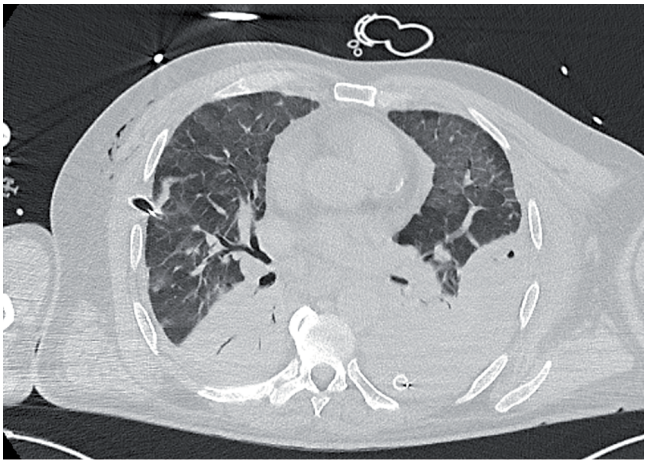

Figure 4. CT scan showing left pleural empyema.

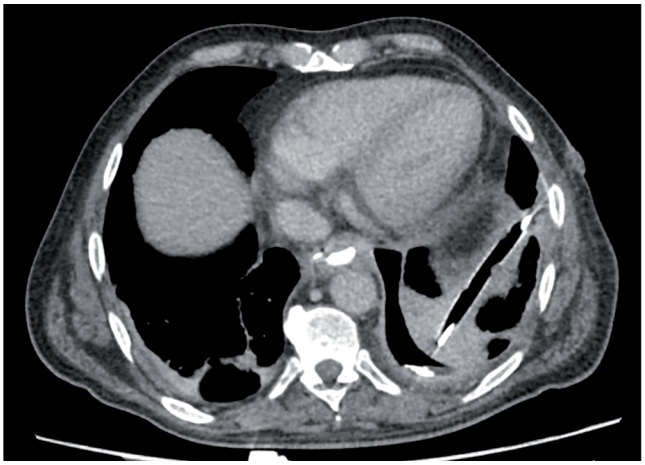

Figure 5. CT scan showing left esophago-pleural fistula.

cates, 300 titles and abstracts were screened. Fifty-four full-text articles were assessed for eligibility, and 12 studies met the inclusion criteria and were included in the final synthesis (Table 1).[15-26] The study selection process is summarized in a PRISMA flowchart (Figure 6).

Risk of bias in the included clinical studies, all of which were non-randomized, was assessed using the ROBINS-I tool for non-randomized intervention studies. This assessment evaluated bias related to confounding, selection of participants, classification of interventions, deviations from intended interventions, missing data, outcome measurement, and selective reporting.[27] Risk-of-bias assessment was performed independently by two reviewers, with discrepancies resolved by consensus with senior investigators.

Data were extracted into a structured spreadsheet following Higgins' methodology,[28] including study design, population characteristics, etiology and location of perforation, timing of diagnosis, treatment modality, need for radiologic drainage, antimicrobial and antifungal therapy, mortality, complications, reintervention, and length of hospital stay. Results of bias assessment were summarized descriptively and visualized using bar and traffic-light plots.[29]

The primary endpoint was overall mortality. Secondary endpoints included morbidity, leak or perforation closure, reintervention or treatment escalation, need for antimicrobial or antifungal therapy, length of hospital stay, and readmission when available.

Study selection and characteristics

A total of 12 studies met the inclusion criteria. These included retrospective case series and cohort studies reporting original clin-

Table 1. Included studies.

Study	Study type	Population	Main treatment	Timing of diagnosis	Mortality	Limitations
Stathopoulos *et al.*, 2022[15]	Clinical series	Adults with acute esophageal perforations (selected non-septic)	Endoscopic EVT	Early	0%	Retrospective; small cohort
Bauer *et al.*, 1996[16]	Clinical series	Adults with spontaneous esophageal rupture complicated by fungal sepsis	Surgery + ICU care	Delayed	50%	2-case report; fungal focus
Shaqran *et al.*, 2024[17]	Review	Adult patients with esophageal perforation	Multiple	NR	NR	Narrative/systematic review
Kaman *et al.*, 2010[18]	Review	Adults with esophageal perforation	Multiple	NR	NR	Narrative review
Vu *et al.*, 2019[19]	Clinical series	Adults with esophageal perforation treated with SIGET	SIGET hybrid surgery	Early	0%	Small technical series
Nachira *et al.*, 2024[20]	Clinical series	Adults with esophageal perforations and postoperative leaks managed in MDT setting	Multidisciplinary hybrid	Variable	1.7%	Large MDT cohort
Salminen *et al.*, 2009[21]	Clinical series	Adults with iatrogenic or spontaneous esophageal perforations/anastomotic leaks	SEMS	Delayed	30%	Delayed referrals
Ben-David *et al.*, 2011[22]	Clinical series	Adults with acute esophageal perforations treated with SEMS	SEMS algorithm	Early	0%	Early intervention
Thermann *et al.*, 2006[23]	Clinical series	Adults with Boerhaave syndrome	Surgery	>12 h	37.5%	Severe sepsis common
Matsuda *et al.*, 2006[24]	Case report	Adult patient with early-diagnosed Boerhaave syndrome	Conservative + clips	Very early	0%	Highly selected case
Saarnio *et al.*, 2007[25]	Clinical series	Adults with delayed esophageal perforation undergoing two-stage reconstruction	Two-stage surgery	Delayed	0%	Complex delayed cases
Sepesi *et al.*, 2010[26]	Review	Adults with esophageal perforation	Multiple	NR	NR	Narrative review

EVT, endoscopic vacuum therapy; ICU, Intensive Care Unit; NR, not reported; SIGET, suction isoperistaltic gastroesophagostomy tube; MDT, multidisciplinary team; SEMS, self-expanding metal stents.

ical data, as well as narrative or systematic reviews included solely for contextual interpretation. Only primary clinical studies contributed to outcome analysis. Study populations were heterogeneous, encompassing spontaneous esophageal perforation (Boerhaave syndrome) and mixed etiologies, with varying degrees of mediastinal and pleural contamination. Management strategies ranged from conventional open surgery to minimally invasive, endoscopic, hybrid, and conservative approaches.

Risk of bias

Overall, the risk of bias across the included clinical series was judged as moderate to serious. The main sources of bias were confounding and selection bias related to retrospective design, small sample sizes, and heterogeneous patient populations. Bias related to outcome measurement was generally low, as clinically relevant endpoints such as mortality, reintervention, and length of hospital stay were clearly defined in most studies. No randomized controlled trials were identified.

Primary endpoint: mortality

Reported mortality varied widely across studies and was strongly influenced by the timing of diagnosis, disease severity,

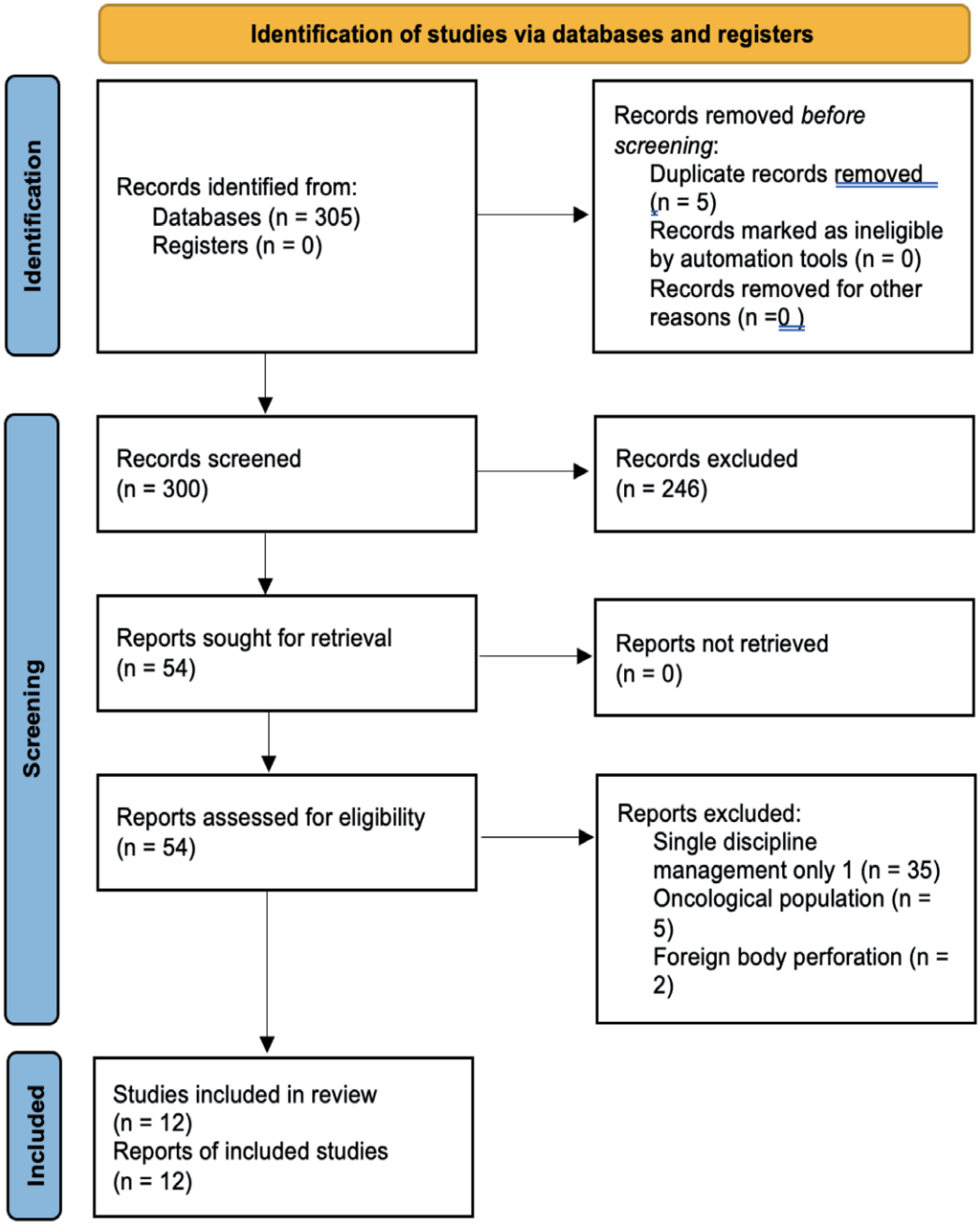

Figure 6. PRISMA flowchart.

and treatment strategy. Early diagnosis and treatment were consistently associated with favorable survival, with several early-treated series reporting very low or absent mortality.[18,23] In contrast, delayed diagnosis beyond 48 hours was associated with substantially higher mortality, reaching up to 30-50% in cohorts including patients with advanced sepsis and extensive mediastinal contamination.[16,21,23] Multidisciplinary series adopting structured minimally invasive and hybrid treatment algorithms reported low mortality, whereas higher lethality was observed in cohorts characterized by delayed referral and severe infection.[20,21]

Secondary endpoints

Morbidity

Infectious complications such as mediastinitis, pleural empyema, pneumonia, and sepsis were frequently reported, while non-infectious complications included persistent leaks and fistula formation.[20,21,23] Overall morbidity was strongly influenced by diagnostic delay and adequacy of source control.

Leak closure and technical success

High rates of leak or perforation closure were reported in highly selected cohorts treated with endoscopic or hybrid strategies. EVT achieved complete closure in most patients in dedicated series, often requiring multiple sessions.[15] SEMS-based strategies showed variable success, with better outcomes in early-treated patients and inferior results in delayed or septic presentations.[21,22]

Reintervention and treatment escalation

Reinterventions were common, particularly in complex cases, and included repeat endoscopic procedures, surgical reintervention, thoracoscopic debridement, and image-guided drainage.[15,20,21] Several studies reported escalation from initial conservative or endoscopic management to surgery, emphasizing the need for close monitoring.

Radiologic drainage

Radiologic and surgical drainage of mediastinal and pleural collections represented a cornerstone of source control in hybrid treatment strategies, particularly in patients with persistent collections or fistulizing complications.[20,21]

Antimicrobial and antifungal therapy

Broad-spectrum antimicrobial therapy was universally used. Invasive fungal infections were reported in critically ill patients with prolonged ICU stays, extensive contamination, and prior antibiotic exposure and were associated with increased morbidity and mortality.[16,20]

Length of hospital stay

Length of hospital stay varied considerably, reflecting differences in disease severity and treatment complexity. Shorter stays were reported in early-treated and minimally invasive cohorts,[15,24] whereas prolonged hospitalization was observed in patients with delayed diagnosis, severe sepsis, or need for staged or repeated interventions.[20,21,23]

Discussion

This systematic review highlights the evolving paradigm in the management of Boerhaave syndrome and esophageal perforation, shifting from uniformly aggressive open surgery toward individualized, multimodal treatment strategies delivered within a multidisciplinary framework.[18,26] Across the included studies, timing of diagnosis consistently emerged as the most relevant prognostic determinant. Early recognition and prompt treatment were consistently associated with improved outcomes, while diagnostic delay correlated with increased morbidity and mortality.[18,23]

Modern management increasingly relies on a step-up integrated approach combining surgery, endoscopy, interventional radiology, and intensive care.[19,20] Endoscopic techniques such as SEMS placement and EVT allow effective sealing of esophageal defects and may facilitate organ preservation when combined with adequate drainage and nutritional support.[15,22] However, their success remains highly dependent on careful patient selection, early implementation, and effective control of sepsis, and they should not be considered standalone therapies in unstable or septic patients.

Radiologic and surgical drainage continue to play a crucial role in achieving adequate source control, particularly in patients with mediastinal or pleural collections.[20,21] The frequent need for reintervention reported across clinical series underscores the dynamic and evolving nature of this condition and highlights the importance of continuous reassessment and treatment escalation within specialized multidisciplinary teams.

Infection control represents another key component of management. Invasive fungal infections, although not universally reported, constitute a severe complication in critically ill patients and may significantly impact outcomes.[16] Evidence from multidisciplinary series supports early microbiological surveillance and a low threshold for antifungal therapy in patients with persistent sepsis following esophageal perforation, particularly in the presence of a prolonged ICU stay or extensive contamination.[20]

Overall, the available evidence supports early diagnosis, multidisciplinary decision-making, and tailored use of minimally invasive and organ-preserving strategies. The favorable outcome of the presented case, achieved through sequential surgical, endoscopic, and radiologic interventions, exemplifies the effectiveness of this contemporary step-up approach in the management of complex Boerhaave syndrome.

Limitations

This study has several limitations that should be acknowledged. First, the available evidence on Boerhaave syndrome is inherently limited by the rarity of the condition. Consequently, the included studies were predominantly retrospective case series or cohort studies with small sample sizes and heterogeneous patient populations, treatment strategies, and outcome reporting. This heterogeneity precluded meaningful quantitative pooling of results and limited the feasibility of formal meta-analysis.

Second, substantial clinical heterogeneity was observed across studies with respect to the etiology of perforation, timing of diagnosis, severity of sepsis, and extent of mediastinal and pleural contamination. These factors are well known to influence outcomes independently of the treatment modality and may act as

important confounders, contributing to the moderate to serious risk of bias identified in the ROBINS-I assessment.

Third, outcome reporting was inconsistent, particularly for secondary endpoints such as morbidity, reintervention rates, antimicrobial and antifungal therapy, and length of hospital stay. In several studies, these variables were incompletely reported or described only qualitatively, limiting direct comparison between treatment strategies. In addition, multidisciplinary management was often described as part of institutional practice rather than formally defined or standardized, making it difficult to isolate the effect of individual therapeutic components.

Finally, publication bias cannot be excluded, as successful or innovative multidisciplinary and minimally invasive approaches may be preferentially reported, while unfavorable outcomes or failed conservative strategies are less likely to be published.

Despite these limitations, the present systematic review provides a comprehensive and contemporary synthesis of the available evidence and highlights consistent patterns supporting early diagnosis, individualized decision-making, and coordinated multidisciplinary care in the management of Boerhaave syndrome.

Conclusions

Boerhaave syndrome continues to represent a high-risk surgical emergency, requiring prompt recognition and timely, adaptable, patient-centered management. This study supports a multidisciplinary treatment framework incorporating surgical, endoscopic, and radiologic techniques. When feasible, minimally invasive approaches, such as laparoscopic repair, VATS, and SEMS placement, may provide meaningful clinical advantages in selected patients. Interdisciplinary collaboration is crucial not only for operative planning but also for antimicrobial stewardship, nutritional support, and imaging-guided interventions. A coordinated, step-up strategy delivered by experienced multidisciplinary teams should be considered the contemporary standard of care for managing complex esophageal perforations.

References

1. Derbes VJ, Mitchell RE. Herman Boerhaave's Atrocis, nec descripti prius, morbi historia. Bull Med Libr Assoc 1955;43:217-40.
2. Brinster CJ, Singhal S, Lee L, et al. Evolving options in the management of esophageal perforation. Ann Thorac Surg 2004;77:1475-83.
3. Salo JA, Isolauri JO, Heikkilä LJ, et al. Boerhaave's syndrome: lessons learned from 34 patients. Scand J Gastroenterol 2003;38:15-20.
4. Brauer RB, Liebermann-Meffert D, Stein HJ, et al. Boerhaave's syndrome: analysis of 18 patients. Dis Esophagus 1997;10:64-8.
5. Vial CM, Whyte RI. Boerhaave's syndrome: diagnosis and treatment. Surg Clin North Am 2005;85:515-24.
6. Bufkin BL, Miller JI Jr, Mansour KA. Esophageal perforation: emphasis on management. Ann Thorac Surg 1996;61:1441-6.
7. Keogan AG, Rybachok A, Patel S, et al. Diagnostic Utility of Computed Tomography in Patients With Spontaneous Pneumomediastinum Evaluated for Suspected Esophageal Perforation. World J Surg 2025;49:3362-7.
8. Muir AD, White J, McGuigan JA, McManus KG. Management of esophageal perforation in the endoscopic era. Curr Opin Otolaryngol Head Neck Surg 2017;25:459-66.
9. Schweigert M, Dubecz A, Beron M, et al. Surgical management of esophageal perforation. Semin Thorac Cardiovasc Surg 2014;26:235-43.
10. Vallböhmer D, Hölscher AH, Hölscher M, et al. Options in the management of esophageal perforation: minimally invasive surgery. Surg Endosc 2010;24:271-80.
11. Freeman RK, Van Woerkom JM, Ascioti AJ, et al. Esophageal stent placement for the treatment of spontaneous esophageal perforations. Ann Thorac Surg 2009;88:194-8.
12. Mennigen R, Harting C, Lindner K, et al. Comparison of endoscopic vacuum therapy versus stent for anastomotic leak after esophagectomy. Gastrointest Endosc 2015;82:1-9.
13. Yeo CJ, Sarr MG, McGinnis MJ, et al. Percutaneous drainage of esophageal leaks and perforations. J Gastrointest Surg 1999;3:462-8.
14. Vogel SB, Rout WR, Martin TD, Abbitt PL. Esophageal perforation in adults: aggressive, conservative treatment lowers morbidity and mortality. Am Surg 2005;71:684-8.
15. Stathopoulos P, Kessler J, Fuchs KH, et al. Endoscopic vacuum therapy for acute esophageal perforations. Endosc Int Open 2022;10:E1234-41.
16. Bauer TM, Lalvani A, Feighery C, et al. Candida sepsis complicating spontaneous esophageal rupture. Am J Gastroenterol 1996;91:186-8.
17. Shaqran A, Alkahtani M, Alsubaie N, et al. Management strategies for esophageal perforation: a systematic review. Cureus 2024;16:e12345.
18. Kaman L, Iqbal J, Kundil B, Kochhar R. Management of esophageal perforation in adults. Gastroenterol Res 2010;3:235-44.
19. Vu KN, Daon E, Balonov K, et al. Continuous suction isoperistaltic gastroesophagostomy tube (SIGET) for esophageal perforation. Ann Thorac Surg 2019;108:1-6.
20. Nachira D, Meacci E, Porziella V, et al. Multidisciplinary management of esophageal perforations and leaks: a single-center experience. World J Gastrointest Surg 2024;16:3471-84.
21. Salminen P, Gullichsen R, Laine S. Use of self-expandable metal stents for the treatment of esophageal perforations and anastomotic leaks. Surg Endosc 2009;23:1-7.
22. Ben-David K, Behrns KE, Sarosi GA Jr, et al. Esophageal perforation management using a minimally invasive endoscopic stent-based algorithm. Endoscopy 2011;43:617-24.
23. Thermann F, Thermann M, Dralle H. Chirurgische Therapie und Verlauf nach spontaner Osophagusruptur [Therapy and course of disease in spontaneous esophageal perforations]. Zentralbl Chir 2006;131:454-9.
24. Matsuda A, Miyashita M, Sasaki M, et al. Successful conservative management of early-diagnosed Boerhaave syndrome using endoscopic clipping. J Nippon Med Sch 2006;73:341-5.
25. Saarnio J, Leppäniemi A, Salo J, et al. Two-stage reconstruction after esophageal perforation. J Thorac Cardiovasc Surg 2007;133:178-84.
26. Sepesi B, Raymond DP, Peters JH. Current concepts in the management of esophageal perforation. Curr Opin Gastroenterol 2010;26:354-60.
27. Sterne JAC, Hernán MA, Reeves BC, et al. ROBINS-I: a tool

for assessing risk of bias in non-randomised studies of interventions. BMJ 2016;355:i4919.
28. Higgins JPT, Green S (Ed.). Cochrane Handbook for Systematic Reviews of Interventions. Version 5.1.0. John Wiley & Sons; 2011.
29. McGuinness LA, Higgins JPT. Risk-of-bias visualization (robvis): an R package and Shiny web app for visualizing risk-of-bias assessments. Res Synth Methods 2021;12: 55-61.

Received: 15 March 2026; Accepted: 8 May 2026.

Contributions: Rebecca Filios, Giulia Delnevo, Simone Frassini, Jacopo Viganò: study conception; Rebecca Filios, Giulia Delnevo: writing – original draft, literature search and screening; Rebecca Filios, Giulia Delnevo, Simone Frassini: methodology; Simone Frassini, Luca Ansaloni: supervision; Paola Fugazzola, Jacopo Viganò, Ahmed Ghaly, Marco Bardone, Riccardo Corti, Claudia Nava, Andrea Dagnoni, Nikolaos Markou Pappas: writing – review and editing. All authors have read and approved the final manuscript and agreed to be accountable for all aspects of the work.

Conflict of interest: the authors declare no conflict of interest. PF is Editor-in-Chief of Case Reports in Emergency Surgery and Trauma; LA is Associate Editor of Case Reports in Emergency Surgery and Trauma.

Ethics approval and consent to participate: no ethical committee approval was required for this case report. Informed consent was obtained from the patient included in this study.

Consent for publication: written informed consent was obtained from the patient for the publication of clinical data and images.

Availability of data and materials: all data generated or analyzed during this study are included in this published article.

Acknowledgments: the authors thank the multidisciplinary team involved in the clinical management of the patient.