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CLINICAL AND EPIDEMIOLOGICAL PROFILE ASSOCIATED WITH THE EVOLUTION AND OUTCOME OF PATIENTS UNDERGOING SURGERY FOR PERFORATED PEPTIC ULCER IN A TERTIARY HOSPITAL IN THE FEDERAL DISTRICT

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Abstract: Considering the high morbidity and mortality associated with perforated peptic ulcer, especially in contexts of late diagnosis and the presence of comorbidities, it is essential to understand the clinical profile and factors associated with the outcomes of this condition in public health services. The objective is to evaluate the clinical-epidemiological profile, clinical and surgical characteristics, and hospital outcomes of patients undergoing surgery for perforated peptic ulcer at a tertiary hospital in the Federal District. To this end, an observational, descriptive, retrospective, and quantitative study was conducted based on the analysis of medical records of adult patients who underwent laparotomy for ulcer perforation between 2019 and 2024. Demographic, clinical, diagnostic, surgical, and outcome variables were analyzed. Thus, a predominance of males, an average age of approximately 50 years, and a high frequency of risk factors such as smoking, alcoholism, and use of nonsteroidal anti-inflammatory drugs were observed. The most commonly used surgical technique was ulcer repair associated with omental patch. Hospital mortality was 13%, mainly associated with advanced age, female gender, presence of cardiovascular disease, postoperative complications, and the need for surgical reintervention. This allows us to conclude that clinical severity at admission and postoperative evolution are central determinants of prognosis, reinforcing the importance of early recognition and adequate management of abdominal sepsis.

Keywords: perforated peptic ulcer, surgical emergency, morbidity and mortality, laparotomy, abdominal sepsis.

INTRODUCTION

Perforated peptic ulcer is one of the most serious complications of peptic ulcer disease, characterized by perforation of the gastric or duodenal wall, with consequent leakage of gastrointestinal contents into the peritoneal cavity, causing chemical and bacterial peritonitis (Søreide et al., 2015). Even with diagnostic and therapeutic advances, this condition still has high morbidity and mortality, especially when there is a delay in diagnosis or surgical treatment (Bae et al., 2022; Lau et al., 2019).

The global incidence of peptic ulcer disease has decreased in recent decades, reflecting the control of Helicobacter pylori infection and the rational use of antacids and proton pump inhibitors (PPIs) (Malfertheiner et al., 2021). However, the number of complicated cases, such as bleeding and perforation, remains significant, especially in elderly populations, chronic users of nonsteroidal anti-inflammatory drugs (NSAIDs), and smokers (Thorsen et al., 2013; Arveen et al., 2009).

Ulcer perforation occurs in approximately 2% to 10% of patients with peptic ulcer disease and represents a surgical emergency associated with mortality that can reach 30%, depending on the severity of peritonitis and the patient's clinical condition (Søreide et al., 2015; Bertleff & Lange, 2010). Factors such as advanced age, comorbidities, use of NSAIDs, and delayed diagnosis are directly related to a worse prognosis (Thorsen et al., 2013; Søreide et al., 2017).

In the Brazilian context, the literature on the clinical profile and outcomes of patients with perforated peptic ulcer is still scarce. Local studies indicate that surgical management by simple suture with omentopexy remains the most widely used procedure, although the choice of technique varies according to the size of the perforation and the patient's clinical condition (Melo et al., 2020; Souza et al., 2021). In public hospitals, delays in care and structural limitations contribute significantly t ' high rate of postoperative complications and mortality (Oliveira et al., 2019).

Analysis of the clinical and epidemiological profile of these patients is essential to understand risk factors and improve emergency care protocols. Early recognition of clinical signs of perforation, judicious use of imaging tests, and timely surgical approach are determinants of therapeutic success (Lau et al., 2019; Bae et al., 2022).

Thus, the general objective of this study is to evaluate the clinical-epidemiological profile, clinical and surgical characteristics, and hospital outcomes of patients undergoing surgery for perforated peptic ulcer at a tertiary hospital in the Federal District. The specific objectives of the study are:

a) Describe the preoperative demographic and clinical characteristics of patients, including age, sex, comorbidities, and risk factors;

b) Characterize the clinical presentation, diagnostic imaging findings, and intraoperative characteristics of ulcer perforations;

c) Determine the frequency of postoperative complications, the need for reoperation, length of hospital stay, and hospital mortality;

d) Identify factors associated with the occurrence of complications and in-hospital death in this population.

METHODOLOGY

Type of study and design

This is an observational, descriptive, retrospective, and quantitative study developed from the analysis of medical records of patients who underwent surgery for perforated peptic ulcer, with the aim of characterizing the clinical-epidemiological profile, identifying factors associated with postoperative evolution, and evaluating clinical outcomes in patients treated at a tertiary hospital in the Federal District.

Study location

The study was conducted at the Taguatinga Regional Hospital (HRT), a public referral unit for general and emergency surgery of the Unified Health System (SUS), located in the Federal District. The hospital treats patients with medium and high complexity from various administrative regions of the Federal District and surrounding areas, making it a representative center for the treatment of abdominal emergencies in the region.

Population and sample

All adult patients (≥18 years) who underwent exploratory laparotomy for perforated peptic ulcer between January 2019 and December 2024 were included, according to records from the HRT General Surgery Service.

The inclusion criteria were:

a) confirmed intraoperative diagnosis of perforated gastric or duodenal ulcer;

b) surgical procedure performed with detailed description in medical records;

c) availability of essential clinical and surgical information for analysis.

Patients with non-ulcerative perforations (neoplastic, traumatic, or iatrogenic) were excluded, as were those with incomplete medical records or no intraoperative confirmation of the diagnosis. Additionally, patients with a high number of missing data in variables considered essential were excluded from the analysis, since the inclusion of these cases could compromise statistical consistency and introduce biases in the results.

Patients who underwent surgical reintervention in separate readmissions, i.e., who were discharged from the hospital after the first intervention and later returned to the hospital with a new complication related to the perforated ulcer, were considered new cases, as they represented independent clinical episodes.

The final sample consisted of 48 patients. Due to incomplete medical records, some variables had missing data, resulting in variation in the denominator in the analyses, as indicated in each table.

Variables analyzed and operational definitions

The variables were organized into four major groups:

a) Preoperative demographic and clinical variables

These included age (in years), presence of comorbidities (systemic arterial hypertension, diabetes mellitus, chronic kidney disease or acute renal failure, cardiovascular disease, psychiatric disorder), lifestyle habits (smoking, alcoholism, and illicit drug use), previous use of nonsteroidal anti-inflammatory drugs (NSAIDs), and history of gastritis or peptic ulcer.

The time of symptom evolution was defined as the interval (in hours) between the onset of abdominal pain and hospital admission, and was subsequently categorized for comparative analysis (<24 hours, 1 day, 2-7 days, 8-14 days, and >14 days).

b) Clinical variables at admission

Signs and symptoms associated with perforation were evaluated, including abdominal pain, nausea and/or vomiting, cessation of stool and/or flatulence, clinical signs of peritonitis, and signs of severity or sepsis. The presence of sepsis was considered when there was a compatible clinical record in the medical chart, according to institutional criteria in force at the time of care.

c) Diagnostic and intraoperative variables

These included imaging findings (presence of pneumoperitoneum, image suggestive of perforation and gastric or duodenal thickening), location of the ulcer (gastric or duodenal), nature of the perforation (acute or chronic), surgical technique used ((simple ulcerorrhaphy, ulcerorrhaphy with omental patch, gastric resection), as well as the need for surgical reapproach.

Chronic perforation was defined by the presence of thickened and/or fibrotic edges of the lesion or by the description of an old inflammatory process during surgery.

The variable "revision" was defined as any need for new abdominal surgery during the same hospital stay, regardless of the cause.

d) Outcome variables

The outcomes evaluated included overall postoperative complications, major complications (such as septic shock, acute renal failure, and need for reoperation), length of hospital stay (in days), and hospital mortality.

Standardization and homogenization of the database

After collection, the data underwent a process of review, terminological standardization, and homogenization of variables. Heterogeneous textual information was recoded into standardized categorical variables using binary coding (1 = presence; 0 = absence), with missing data classified as "missing" and identified by a period ("."), according to the statistical software convention.

Clinical, surgical, and anatomopathological variables were reviewed individually, ensuring consistency between textual description and final categorization. Unsuccessful surgical attempts (e.g., unsuccessful omental patch attempt) were considered according to their clinical relevance for each variable analyzed.

Data collection and analysis

The data were extracted from electronic medical records and recorded in a spreadsheet created in Microsoft Excel 365. Subsequently, they were analyzed using STATA software, version 17.0 (StataCorp, College Station, TX, USA).

The descriptive analysis included absolute and relative frequencies for categorical variables, as well as mean and standard deviation for continuous variables. For inferential analysis, Pearson's chi-square test or Fisher's exact test was used, when appropriate, to compare categorical variables, and Student's t-test was used to compare means between independent groups. A statistical significance level of 5% ($p < 0.05$) was adopted.

No multivariate analyses or regression models were performed due to the limited sample size, which could compromise the stability of the models and the validity of the estimates. Additional exploratory analyses were performed to investigate associations between clinical and surgical variables and outcomes, also considering trends toward statistical significance as a function of sample size.

Ethical considerations

The study was conducted in accordance with the ethical principles of the Declaration of Helsinki and CNS Resolution No. 466/2012. The project was approved by the Research Ethics Committee of the Health Sciences Teaching and Research Foundation (FEPECS), under CAAE 90760725.0.0000.5553.

The data were collected anonymously, preserving the confidentiality of the information, and used exclusively for academic and scientific purposes.

RESULTS

Forty-eight patients who underwent surgery for perforated peptic ulcer at a tertiary hospital in the Federal District during the period analyzed were included. The mean age of the sample was 49.98 ± 15.28 years, ranging from 18 to 86 years. Of these, 38 (79.17%) were male and 10 (20.83%) were female.

Clinical and epidemiological profile

Among the 46 patients with recorded ulcer location, 82.6% (38/46) had perforated gastric ulcers, and 13.0% (6/46) had perforated duodenal ulcers.

Among the 46 patients with information on comorbidities, 26.1% (12/46) had at least one clinical comorbidity. The most frequent were systemic arterial hypertension in 26.1% (12/46), smoking in 47.8% (22/46), alcoholism in 39.1% (18/46), and type 2 diabetes mellitus in 10.9% (5/46). Cardiovascular disease was identified in 6.5% (3/46) of patients and chronic kidney disease or previous acute kidney injury in 6.5% (3/46). A history of gastritis or previous peptic ulcer was present in 10.9% (5/46) of patients with this information recorded.

Regarding drug-related risk factors, among the 20 patients with available information on the use of nonsteroidal anti-inflammatory drugs (NSAIDs), 40.0% (8/20) were chronic users, 35.0% (7/20) were sporadic users, and 25.0% (5/20) denied use. Helicobacter pylori infection was investigated in 39 patients and confirmed in 17.9% (7/39).

Regarding clinical presentation, 95.8% (46/48) of patients had a history of abdominal pain, while in 4.2% (2/48) there was no description of the symptom in the medical records. The onset of pain could be classified in 42 patients, being sudden or abrupt in 61.9% (26/42) and progressive in 38.1% (16/42). The initial location of the pain was defined in 45 patients, occurring predominantly in the epigastrium or upper abdomen in 57.8% (26/45), followed by diffuse pain from the onset in 26.7% (12/45), right hypochondrium in 8.9% (4/45), left hypochondrium in 4.4% (2/45), and right iliac fossa in 2.2% (1/45). In 43 patients, it was possible to assess the pattern of pain spread, with progression to diffuse abdominal pain in 65.1% (28/43), while 34.9% (15/43) remained with localized pain. Pain

radiation was reported in 25.0% (12/48) of patients, most frequently to the back. Pain intensity could be inferred in 41 patients, being described as intense or very intense in 75.6% (31/41).

Regarding signs of severity and associated symptoms, among the 45 patients with these data reported, 62.2% (28/45) had nausea and/or vomiting, 42.2% (19/45) had clinical signs of peritonitis, and 22.2% (10/45) had fecal and/or flatus retention. (19/45) had clinical signs of peritonitis, and 22.2% (10/45) had cessation of stool and/or flatulence. Clinical signs of severity or sepsis were identified in 6.7% (3/45) of patients with this record available.

The mean time from symptom onset to hospital admission among patients with this information recorded was 5.49 ± 9.78 days, with wide variation. When categorized, among the 44 patients with available data, 50.0% (22/44) had a time of evolution between 2 and 7 days, while 13.6% (6/44) sought care in less than 24 hours.

Diagnostic evaluation and surgical characteristics

In the imaging evaluation, among the 45 patients with reported imaging exams, pneumoperitoneum was identified in 93.3% (42/45). Imaging findings suggestive of perforation were present in 24.4% (11/45), and gastric or duodenal thickening was observed in 31.1% (14/45).

Among the 46 patients with this administrative information recorded, the procedures were classified as urgent in 89.1% (41/46) of cases and as emergency in 10.9% (5/46). This classification reflects the institutional administrative record and does not necessarily correspond to the clinical definition of surgical emergency.

The most commonly used surgical technique among the 46 patients with available surgical data was ulcer repair, performed in 89.1% (41/46) of cases, associated with omental patch (Graham technique) in 82.6% (38/46) of cases. Procedures without ulceroplasty were performed in 10.9% (5/46) of cases, including partial gastrectomies and a palliative procedure with diversion and drainage, according to data available in medical records and surgical records.

Postoperative complications, reoperation, and mortality

Among the 45 patients with available complication data, 44.4% (20/45) had postoperative complications. Among these, 24.4% (11/45) had major complications, including sepsis, septic shock, acute renal failure, and the need for surgical reapproach.

Surgical reapproach, among the 46 patients with this data reported, was necessary in 13.0% (6/46). A statistically significant association was observed between reoperation and death: among the 6 patients who died with this data available, 50.0% (3/6) underwent reoperation, compared to 7.5% (3/40) among survivors (p = 0.004).

Overall hospital mortality among the 46 patients with recorded outcomes was 13.0% (6/46). Patients who died had a significantly higher mean age than survivors (73.0 ± 9.62 vs. 46.46 ± 13.37 years; p = 0.0013).

Among the other factors associated with death besides age, the following stood out:

a) Female gender, observed in 66.7% (4/6) of patients who died, compared to 15.0% (6/40) among survivors (p = 0.004);

b) Cardiovascular disease, present in 33.3% (2/6) of patients who died versus 2.5% (1/40) among survivors (p = 0.004);

c) Stool and/or flatus retention, observed in 60.0% (3/5) of deaths versus 17.5% (7/40) of survivors (p = 0.031);

d) Presence of postoperative complications, observed in 100% (6/6) of patients who died versus 35.9% (14/39) of survivors (p = 0.003).

There was no statistically significant association between death and hypertension, diabetes mellitus, smoking, alcoholism, use of NSAIDs, H. pylori infection, signs of peritonitis, ulcer location, or type of surgical procedure (p > 0.05).

The mean length of hospital stay among patients with this data available was 11.42 ± 13.44 days, with no statistically significant difference between survivors and non-survivors (10.79 ± 13.21 vs. 15.50 ± 15.51 days; p = 0.51).

Anatomopathological findings

Among patients with available anatomopathological examination, the analysis revealed predominantly findings compatible with perforated peptic ulcer, characterized by intense inflammatory infiltrate, often transmural, associated with necrosis, hemorrhage, edema, and stromal fibrosis. In several samples, there was an absence of preserved epithelium, which made it impossible to adequately evaluate the mucosa in some cases, especially for Helicobacter pylori testing.

Among the cases evaluated, no findings of malignancy were identified, including the absence of dysplasia or neoplasia in the biopsies and surgical specimens analyzed, reinforcing the benign profile of the perforated ulcerated lesions treated in this series.

DISCUSSION

The results of this study, which evaluated 48 patients who underwent surgery for perforated peptic ulcer at a tertiary hospital in the Federal District, allow for a comprehensive analysis of the clinical-epidemiological profile, associated factors, and outcomes related to this potentially serious condition. The mean age of the sample was 49.98 ± 15.28 years, with a wide age range (18 to 86 years), with the majority being men (79.2%) compared to women (20.8%), a pattern consistent with the classic literature on the epidemiology of perforated peptic ulcer. This age profile is compatible with contemporary series, which show involvement of both young adults and elderly patients, reflecting the coexistence of different risk factors throughout life.

Although the disease was more frequent in males, a statistically significant association was observed between female sex and higher postoperative mortality. While women represented only about one-fifth of the sample, they accounted for two-thirds of deaths, a finding that suggests a profile of greater clinical severity in this group. This result is consistent with recent evidence indicating that, despite the lower incidence of perforation in women, they often have worse outcomes, possibly due to older age at the time of the event, higher burden of comorbidities, greater chronic use of nonsteroidal anti-inflammatory drugs, and longer delay in diagnosis (SØREIDE et al., 2015; TAŞ et al., 2015).

Variable	n (%) or mean ± SD
Age (years)	49.98 ± 15.28
Gender	
└ Male	38/48 (79.2%)
└ Female	10/48 (20.8%)
Systemic arterial hypertension	12/46 (26.1%)
Type 2 diabetes mellitus	5/46 (10.9%)
Cardiovascular disease	3/46 (6.5%)
CKD or ESRD	3/46 (6.5%)
Smoking	22/46 (47.8%)
Alcoholism	18/46 (39.1%)
Illegal drug use	4/46 (8.7%)
Previous abdominal surgery	5/46 (10.9%)
History of gastritis or ulcer	5/46 (10.9%)
Use of NSAIDs	
└ Denies use	5/20 (25.0%)
└ Sporadic use	7/20 (35.0%)
└ Chronic use	8/20 (40.0%)
H. pylori positive	7/39 (17.9%)

Percentage values were calculated based on the number of valid observations for each variable, and there may be variation in the denominators due to missing data in the medical records.

Table 1. Clinical and epidemiological characteristics of the sample

Variable	n
Time of evolution	
└ < 24h	6/44 (13.6%)
└ 1 day	11/44 (25.0%)
└ 2–7 days	22/44 (50.0%)
└ 8–14 days	3/44 (6.8%)
└ > 14 days	2/44 (4.5%)
Abdominal pain	
└ Sudden/abrupt onset	26/42 (61.9%)
└ Progressive/insidious onset	16/42 (38.1%)
Location of abdominal pain	
└ Diffuse	12/45 (26.7%)
└ Epigastrium	26/45 (57.8%)
└ Right hypochondrium	4/45 (8.9%)
└ Left hypochondrium	2/45 (4.4%)

└ Right iliac fossa	1/45 (2.2%)
Signs of peritonitis	19/45 (42.2%)
Signs of severity or sepsis	3/45 (6.7%)
Nausea and/or vomiting	28/45 (62.2%)
Constipation and/or flatulence	10/45 (22.2%)
Pneumoperitoneum on imaging	42/45 (93.3%)
Image suggestive of perforation	11/45 (24.4%)
Gastric/duodenal thickening	14/45 (31.1%)
Intraoperative diagnosis	
└ Acute perforated abdomen	44/46 (95.7%)
└ Ulcer repair dehiscence	2/46 (4.3%)
Ulcer location	
└ Gastric	38/46 (82.6%)
└ Duodenal	6/46 (13.0%)
Ulcer repair performed	41/46 (89.1%)
Omental patch	38/46 (82.6%)
Surgical reapproach	6/46 (13.0%)

Percentage values were calculated based on the number of valid observations for each variable, and there may be variation in the denominators due to missing data in the medical records.

Table 2. Clinical, diagnostic, and surgical characteristics

Outcome	n (%) or mean ± SD
Postoperative complications (overall)	20/45 (44.4%)
Major postoperative complications	11/45 (24.4%)
Length of hospital stay (days)	11.48 ± 13.59
Hospital death	6/46 (13.0%)

Percentage values were calculated based on the number of valid observations for each variable, and there may be variation in the denominators due to missing data in the medical records

Table 3. Clinical outcomes

Variable	NO (n, % or mean ± SD)	YES (n, % or mean ± SD)	p
Age (years)	46.46 ± 13.37	73.00 ± 9.62	**0.001**
Female	6/40 (15%)	4/6 (66.6%)	**0.004**
Cardiovascular disease	1/40 (2.5%)	2/6 (33.3%)	**0.004**
Constipation and/or flatulence	7/40 (17.5%)	3/5* (60.0%)	**0.031**

Surgical reapproach=	3/40 (7.5%)	3/6 (50.0%)	**0.004**
Postoperative complications	14/39 (35.9%)	6/6 (100.0%)	**0.003**

Percentage values were calculated based on the number of valid observations for each variable, and there may be variation in the denominators due to missing data in the medical records. *Among the six patients who died, only five had recorded information regarding the presence of fecal and/or flatus retention.

Table 4. Inferential analysis: associations with death

Variable	NO (n, % or mean ± SD)	YES (n, % or mean ± SD)	p
Age (years)	47.45 ± 12.73	58.30 ± 20.34	0.069
Type 2 diabetes mellitus	2/34 (5.9%)	3/11 (27.3%)	**0.05**
CKD or ESRD	1/34 (2.9%)	2/11 (18.2%)	0.078
Cardiovascular disease	1/34 (2.9%)	2/11 (18.2%)	0.078
Signs of severity/sepsis	1/33 (3.0%)	2/11 (18.2%)	0.084
Length of hospital stay (days)	8.85 ± 9.96	19.36 ± 19.64	0.057

Percentage values were calculated based on the number of valid observations for each variable, and there may be variation in the denominators due to missing data in the medical records.

Table 5. Inferential analysis: associations with major postoperative complications (Clavien–Dindo ≥ III)

The use of NSAIDs was identified in 40% of patients with this information available, with a predominance of chronic use. Although no statistically significant association was observed between the use of NSAIDs and mortality or postoperative complications, this finding should be interpreted with caution, considering the limited number of patients with adequate records of this variable. The literature consistently points to the use of NSAIDs as an important etiological factor in perforated peptic ulcers, especially in elderly populations with multiple comorbidities (SØREIDE et al., 2015).

Regarding the location of the ulcer, a predominance of perforated gastric ulcers (82.6%) was observed, in contrast to most international series, in which duodenal ulcers are more frequent (CHUNG; SHELAT, 2017; THORSEN et al., 2013). Thus, the predominance of gastric ulcers, diverging from most international series, may reflect intraoperative classification bias, underreporting of small duodenal ulcers, or differences in the population profile served. Furthermore, no statistically significant association was identified between ulcer location and mortality or postoperative complications. The absence of malignancy in anatomopathological examinations reinforces the benign profile of the treated lesions, although this finding should be interpreted in light of the limited number of gastric resections and the absence of preserved epithelium in some samples.

Clinical comorbidities were present in 26.1% of patients, with systemic arte-

rial hypertension, diabetes mellitus, and cardiovascular diseases being the most relevant. The presence of cardiovascular disease showed a statistically significant association with mortality (p = 0.004). Among the cardiovascular diseases identified in the medical records, the most notable were a history of previous acute myocardial infarction, coronary artery disease, previous ischemic stroke, and the presence of a permanent pacemaker. These findings reinforce the impact of reduced cardiovascular reserve on the prognosis of patients undergoing acute abdominal sepsis.

Regarding clinical presentation, symptoms such as nausea and/or vomiting, signs of peritonitis, and cessation of stool and/or flatus were frequent. The cessation of stool and/or flatus was statistically significantly associated with mortality (p = 0.031), possibly reflecting more advanced stages of peritonitis and paralytic ileus, with greater systemic compromise.

The mean time from symptom onset to hospital admission was 5.49 ± 9.78 days, with wide variation. Although no statistically significant association was observed between time of evolution and mortality or complications, there was a tendency toward worse outcomes in patients with longer delays in seeking care, a clinically relevant finding consistent with the literature (SØREIDE et al., 2015).

From a surgical point of view, ulcer repair associated with omental patch was the most widely used technique, reflecting the established practice for the treatment of most ulcer perforations. There was no significant association between the type of surgical procedure and mortality or complications, corroborating evidence that outcomes are more related to the patient's clinical condition and the severity of the infection than to the surgical technique used (CHUNG; SHELAT, 2017).

Postoperative complications occurred in 44.4% of patients, and major complications in 24.4%. The presence of postoperative complications showed a strong association with mortality, occurring in 100% of patients who died (p = 0.003). The need for reoperation also showed a statistically significant association with death (p = 0.004), constituting an important marker of severity and failure of initial control of abdominal sepsis.

Overall hospital mortality was 13%, a value consistent with the lower range of rates described in large international series (SØREIDE et al., 2015). It was observed that patients who died were significantly older than survivors, in addition to having a higher burden of comorbidities, postoperative complications, and the need for surgical reintervention, a pattern widely described in the literature.

More recent studies reinforce that, despite technological advances in diagnosis, anesthesia, and perioperative care, ulcer repair associated with omental patch remains the standard technique for the treatment of perforated peptic ulcer, presenting outcomes similar to those described in the classic series, which maintains the relevance of these studies as a structural basis for current surgical practice (MONICA et al., 2025; MISHRA et al., 2025).

Among the limitations of the present study are its retrospective design, single-center nature, and small sample size, factors that limit the statistical power to detect more subtle associations and prevented the performance of multivariate analyses and regression models, which could identify independent factors associated with com-

plications and mortality. In addition, the heterogeneity and incompleteness of medical records represented a relevant limitation, with the absence of important data in a significant portion of patients, such as the investigation and/or result of Helicobacter pylori infection, as well as the lack of a systematic record of severity and sepsis scores (e.g., qSOFA, SOFA, or APACHE II). These limitations restrict more accurate comparisons with the literature and prognostic stratification of the sample. Nevertheless, the findings offer a realistic view of the management of perforated peptic ulcer in a tertiary hospital in the public health system, contributing relevant clinical data consistent with everyday healthcare practice.

CONCLUSION

Perforated peptic ulcer remains a serious surgical emergency, associated with high morbidity and mortality, whose clinical evolution depends mainly on the severity of the condition upon admission, the presence of comorbidities, and postoperative complications. In the pres tudy, the mean age was approximately 50 years, and there was a high frequency of clinical risk factors, such as the use of nonsteroidal anti-inflammatory drugs and chronic diseases.

Ulcer repair associated with omental patch was the most commonly used surgical technique, with no significant association with mortality or complications, reinforcing its safety when appropriately indicated. Helicobacter pylori infection, although present in some of the patients tested, was not significantly associated with postoperative outcomes.

Advanced age, female gender, presence of cardiovascular disease, cessation of stool and/or flatus, occurrence of postoperative complications, and need for surgical reintervention stood out as the main factors associated with hospital mortality. Although a statistical association was observed between female gender and death, this finding should be interpreted with caution due to the small absolute number of events. However, the other findings reinforce the importance of early recognition of clinical severity, aggressive management of abdominal sepsis, and rigorous postoperative surveillance, especially in higher-risk subgroups.

Thus, the adoption of well-structured care protocols, combined with an early multidisciplinary approach, can contribute to reducing morbidity and mortality and improving the care provided to patients with perforated peptic ulcers in tertiary hospitals in the public health system.

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