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Retrospective analysis of factors associated with mortality in acute mesenteric ischemia

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MAIN POINTS

- In this single-center, 20-year retrospective cohort of patients undergoing emergency surgery for acute mesenteric ischemia (n=118), the 30-day mortality rate was 76.3%.
- Delayed presentation was common, underscoring the need for earlier recognition and timely surgical intervention.
- Massive intestinal necrosis identified at laparotomy was associated with a marked increase in mortality, underscoring the importance of diagnosis before irreversible ischemia develops.
- Older age and leukocyte count alterations emerged as practical clinical indicators that may aid prognostic assessment at initial presentation.

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ABSTRACT

Aim: Acute mesenteric ischemia (AMI) remains one of the most lethal surgical emergencies, with persistently high mortality despite advances in diagnostic imaging and surgical management. Identification of factors associated with early mortality may improve risk stratification and clinical decision-making.

Materials and Methods: This single-center, retrospective observational study included adult patients who underwent emergency surgery for AMI over a 20-year period. Demographic characteristics, presenting symptoms, time to hospital admission, comorbidities, physical examination findings, leukocyte count, and intraoperative findings were analyzed. The primary outcome was 30-day mortality. Survivors and non-survivors were compared using univariate statistical analyses.

Results: A total of 118 patients were included, with a mean age of 64.9 ± 12.5 years; 60.2% were male. The overall 30-day mortality rate was 76.3%. Non-survivors were significantly older than survivors (66.4 ± 12.2 vs. 60.1 ± 12.4 years, p = 0.019). Delayed presentation was strongly associated with mortality: 25.0% of survivors presented within 12 hours compared with 4.4% of non-survivors, whereas presentation after 24 hours was more frequent among non-survivors (82.2% vs. 53.6%, p = 0.002). Leukocyte count categories were significantly associated with mortality (p = 0.034). The presence of massive intestinal necrosis was the strongest predictor of death, identified in 70.0% of non-survivors versus 21.4% of survivors (p < 0.001). Presenting symptoms, physical examination findings, atrial fibrillation, and comorbidity status were not significantly associated with mortality.

Conclusion: Mortality in acute mesenteric ischemia remains exceedingly high and is primarily determined by delayed presentation and the extent of intestinal ischemia. Early diagnosis, prompt surgical intervention, and aggressive management are essential to improving outcomes in this devastating condition.

Keywords: Acute mesenteric ischemia, Mortality risk factors, Intestinal ischemia, Surgical outcomes

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INTRODUCTION

Acute mesenteric ischemia remains one of the most devastating surgical emergencies affecting the gastrointestinal tract, continuing to carry exceedingly high mortality despite advances in early recognition and timely intervention [1]. The condition arises from an abrupt or progressive reduction in mesenteric blood flow, which may rapidly evolve into intestinal ischemia and transmural necrosis [2]. When diagnosis is delayed, irreversible bowel injury frequently ensues, often compounded by sepsis and multiple organ dysfunction [1]. Given that the clinical course typically begins with nonspecific symptoms, substantial diagnostic delays remain prevalent, particularly among elderly patients and those with significant comorbidities [3].

The etiology of acute mesenteric ischemia is heterogeneous, encompassing distinct pathophysiologic mechanisms including embolic and thrombotic arterial occlusion, nonocclusive mesenteric ischemia, and mesenteric venous thrombosis [4]. This etiologic diversity contributes to considerable variability in clinical presentation and complicates early differentiation

from other causes of acute abdominal pain [5]. Although abdominal pain constitutes the most frequently reported symptom, the classic disproportion between pain severity and physical examination findings is well established as a major source of diagnostic uncertainty [5]. As a consequence, the diagnosis may be overlooked or confirmed only after clinical deterioration, particularly in patients whose initial examination appears deceptively benign [6].

Reported mortality rates for acute mesenteric ischemia range from approximately 50% to 80% [7]. Factors consistently implicated in adverse outcomes include advanced age, delayed hospital presentation, underlying cardiovascular disease, atrial fibrillation, sepsis, metabolic acidosis, and extensive intestinal necrosis [1]. Nevertheless, the relative contribution of these variables and their practical utility for prognostication remain incompletely characterized. In particular, studies comprehensively evaluating the combined impact of presentation timing, physical examination findings, laboratory parameters, and intraoperative observations on mortality within a single, surgically confirmed cohort are notably limited.

Furthermore, existing evidence remains heterogeneous with respect to patient selection, diagnostic pathways, and the spectrum of variables examined; many studies emphasize etiologic classification or advanced laboratory and physiologic markers rather than bedside-applicable parameters obtainable during the initial evaluation. Consequently, the combined prognostic contribution of the timing of presentation, routine clinical findings, simple laboratory stratification (e.g., leukocyte strata), and intraoperative extent of ischemia in a single surgically confirmed AMI cohort remains insufficiently characterized. Defining which readily obtainable clinical and operative features are associated with early mortality in real-world emergency surgical practice may assist clinicians in prioritizing diagnostic escalation and timely operative decision-making [1,6].

Accurate prognostic assessment in acute mesenteric ischemia is critical not only for surgical decision-making but also for counseling patients and their families [8]. Enhanced characterization of clinical and operative markers associated with mortality may facilitate earlier identification of high-risk individuals and support more aggressive diagnostic and therapeutic strategies [9]. In this context, systematic analyses of retrospective clinical data provide an important opportunity to generate real-world evidence that reflects routine practice.

Accordingly, the present study aimed primarily to evaluate associations between routinely available clinical, laboratory, and intraoperative variables and 30-day mortality among adults undergoing emergency surgery for AMI. As a secondary objective, we sought to characterize baseline demographic features, presenting symptoms, admission timing, physical examination findings, and operative characteristics within a surgically confirmed AMI cohort spanning a 20-year period. By focusing on variables routinely accessible during initial assessment and at laparotomy, we aimed to provide pragmatic, real-world evidence to support early risk stratification and guide urgent clinical decision-making in this highly lethal condition.

MATERIALS AND METHODS

Study design

This study was designed as a single-center, retrospective, observational analysis of adult patients who underwent emergency surgery for acute mesenteric ischemia (AMI) at the Department of General Surgery of a tertiary university hospital. Hospital electronic medical records and institutional archived files were systematically reviewed to identify eligible cases over the 20-year study period. As a long-established tertiary-referral university hospital, the institution maintains longitudinal patient records in integrated electronic hospital information systems, supplemented by archived clinical documentation for earlier periods. Only patients with sufficiently complete demographic, clinical, operative, and outcome data were included in the final analysis.

The study protocol was approved by the Erciyes University Faculty of Medicine Ethics Committee (Approval no: 2025/541, Date: 26.11.2025), and all procedures were conducted in accordance with the Declaration of Helsinki [10].

Patient selection criteria

Patients aged 18 years or older who underwent surgical exploration for acute mesenteric ischemia and had adequately documented clinical, laboratory, intraoperative, and outcome data were eligible for inclusion. Inclusion further required that the surgical indication be consistent with acute mesenteric ischemia and that intestinal ischemia or necrosis be assessed intraoperatively.

Patients with incomplete medical records or missing key outcome variables—particularly 30-day mortality data—were excluded from the final cohort.

Study parameters

Data were collected using a standardized extraction form. Demographic variables included age and sex. Clinical presentation was assessed based on the presence of abdominal pain, nausea and vomiting, diarrhea, and melena. Time from symptom onset to hospital admission was categorized as less than 12 hours, 12 to 24 hours, or more than 24 hours. These intervals were selected a priori based on established clinical thresholds widely used in the AMI literature, corresponding to early presentation (fewer than 12 hours), intermediate delay (12–24 hours), and delayed presentation (more than 24 hours)—categories that are recognized to correlate with progressive intestinal ischemia and worsening outcomes [4,7,9]. This categorical approach was adopted to facilitate clinically meaningful interpretation and to enable comparison with prior studies examining the impact of diagnostic delay on mortality in AMI.

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Comorbidity status was defined as the presence of at least one chronic medical condition, and atrial fibrillation was evaluated as a separate variable. Physical examination findings included abdominal distension, abdominal tenderness, voluntary guarding, and rebound tenderness. Bowel sounds at admission were categorized as hypoactive, hyperactive, or normoactive based on clinical documentation.

Among laboratory parameters, leukocyte count was selected for analysis and stratified according to routine clinical thresholds into three categories: 0–10,000/μL, 10,001–20,000/μL, and greater than 20,000/μL [11].

Intraoperative findings focused on the extent of intestinal ischemia. Massive intestinal necrosis was recorded as a distinct variable and defined, on the basis of operative reports, as transmural ischemia or necrosis involving multiple intestinal segments and/or bowel that the operating surgeon deemed to necessitate extensive resection because of widespread nonviable intestine. Classification was based on intraoperative documentation of bowel viability and the extent of ischemic involvement; however, standardized measurements of bowel length were not consistently available across all cases.

The primary outcome measure was 30-day mortality, defined as death occurring during the index hospitalization or within 30 days after admission.

Study power

Given the retrospective nature of the study, an a priori sample size calculation was not performed. A post hoc power analysis was instead conducted to assess the adequacy of the available sample. Based on the observed difference in prevalence of massive intestinal necrosis between survivors and non-survivors (21.4% vs. 70.0%), the sample of 118 patients provided statistical power exceeding 90% to detect the observed difference at a two-sided alpha level of 0.05, supporting the study's ability to identify clinically meaningful differences in the primary outcome.

Statistical analysis

All statistical analyses were performed using SPSS version 22.0 (IBM Corp., Armonk, NY, USA). Continuous variables are presented as mean ± standard deviation and were compared using the independent-samples t-test under the assumption of normality. Categorical variables are summarized as frequencies and percentages, and compared using the Pearson chi-square test; the likelihood ratio chi-square test is applied where appropriate, particularly for variables with multiple categories or low expected cell counts. A two-sided p-value of less than 0.05 was considered statistically significant.

Multivariable logistic regression was not performed. Given the retrospective design, the relatively limited number of survivors (n = 28), and the associated risk of model overfitting with multiple covariates, multivariable modeling was deemed methodologically inappropriate for the reliable identification of independent risk factors. The analysis was therefore intentionally restricted to univariate comparisons to explore associations between individual clinical, laboratory, and intraoperative variables and 30-day mortality.

RESULTS

General demographic characteristics

A total of 118 patients with acute mesenteric ischemia were included in the study. The mean age of the cohort was 64.9 ± 12.5 years (range, 35–89 years), with 71 patients(60.2%)being male and 47 (39.8%) female. The overall 30-day mortality rate

Table 1. Baseline clinical and presenting characteristics of patients with acute mesenteric ischemia (n = 118).

Variable	n (%) / Mean ± SD
Age, years	64.9 ± 12.5 (range: 35--89)
Sex	
Male	71 (60.2%)
Female	47 (39.8%)
Presenting Symptoms	
Abdominal pain	115 (97.5%)
Nausea/vomiting	74 (62.7%)
Diarrhea	18 (15.3%)
Melena	12 (10.2%)
Symptom Duration Prior to Admission	
< 12 hours	11 (9.3%)
12--24 hours	18 (15.3%)
> 24 hours	89 (75.4%)
Comorbidities	
Any comorbidity	95 (80.5%)
Atrial fibrillation	35 (29.7%)
Physical Examination Findings	
Abdominal distention	41 (34.7%)
Tenderness	101 (85.6%)
Guarding	73 (61.9%)
Rebound tenderness	37 (31.4%)
Bowel Sounds on Admission	
Hypoactive	94 (79.7%)
Hyperactive	11 (9.3%)
Normoactive	13 (11.0%)
Leukocyte Count (Categorical)	
0--10,000 /μL	11 (9.3%)
10,001--20,000 /μL	63 (53.4%)
> 20,000 /μL	44 (37.3%)
Intraoperative Findings	
Massive intestinal necrosis	69 (58.5%)
Outcome	
30-day mortality	90 (76.3%)

Note: Continuous variables are presented as mean ± standard deviation, whereas categorical variables are expressed as number (%). Age refers to the age at hospital presentation. Symptom duration represents the time interval from symptom onset to hospital admission. Massive intestinal necrosis was defined as transmural ischemia involving extensive segments of the intestine. Thirty-day mortality includes both in-hospital deaths and deaths occurring within 30 days of admission.

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Table 2. Univariate analysis of clinical, laboratory, and intraoperative factors associated with 30-day mortality in acute mesenteric ischemia (n = 118).

Variable	Survivors (n=28)	Non-survivors (n=90)	Test statistic	p-value
Age (years) (mean ± SD)	60.07 ± 12.35	66.38 ± 12.19	t = 2.38	**0.019**
Sex				
Male Female	20 (71.4%) 8 (28.6%)	51 (56.7%) 39 (43.3%)	χ^2 = 1.94	0.163
Abdominal pain				
Present Absent	27 (96.4%) 1 (3.6%)	88 (97.8%) 2 (2.2%)	χ^2 = 0.16	0.692
Nausea--vomiting				
Present Absent	20 (71.4%) 8 (28.6%)	54 (60.0%) 36 (40.0%)	χ^2 = 1.19	0.275
Diarrhea				
Present Absent	4 (14.3%) 24 (85.7%)	14 (15.6%) 76 (84.4%)	χ^2 = 0.03	0.870
Melena				
Present Absent	3 (10.7%) 25 (89.3%)	9 (10.0%) 81 (90.0%)	χ^2 = 0.01	0.913
Symptom duration				
<12 h 12--24 h >24 h	7 (25.0%) 6 (21.4%) 15 (53.6%)	4 (4.4%) 12 (13.3%) 74 (82.2%)	χ^2 = 12.92	**0.002**
Atrial fibrillation				
Present Absent	7 (25.0%) 21 (75.0%)	28 (31.1%) 62 (68.9%)	χ^2 = 0.38	0.536
Comorbidity				
Present Absent	21 (75.0%) 7 (25.0%)	74 (82.2%) 16 (17.8%)	χ^2 = 0.71	0.399
Abdominal distension				
Present Absent	6 (21.4%) 22 (78.6%)	35 (38.9%) 55 (61.1%)	χ^2 = 2.87	0.090
Abdominal tenderness				
Present Absent	25 (89.3%) 3 (10.7%)	76 (84.4%) 14 (15.6%)	χ^2 = 0.41	0.524
Guarding (defense)				
Present Absent	15 (53.6%) 13 (46.4%)	58 (64.4%) 32 (35.6%)	χ^2 = 1.07	0.301
Rebound tenderness				
Present Absent	9 (32.1%) 19 (67.9%)	28 (31.1%) 62 (68.9%)	χ^2 = 0.01	0.918
Bowel sounds				
Hypoactive Hyperactive Normoactive	23 (82.1%) 2 (7.1%) 3 (10.7%)	71 (78.9%) 9 (10.0%) 10 (11.1%)	χ^2 = 0.22	0.897
WBC count				
0--10,000 10,001--20,000 >20,000	0 (0.0%) 18 (64.3%) 10 (35.7%)	11 (12.2%) 45 (50.0%) 34 (37.8%)	LR = 6.77	**0.034**
Massive necrosis				
Present Absent	6 (21.4%) 22 (78.6%)	63 (70.0%) 27 (30.0%)	χ^2 = 20.75	**<0.001**

Note: Data are presented as mean ± standard deviation for continuous variables and as number (%) for categorical variables. Comparisons between survivors and non-survivors were performed using the independent-samples t test for continuous variables and the Pearson chi-square test for categorical variables; the likelihood ratio test was applied where appropriate. Survivors were defined as patients alive at 30 days after admission, whereas non-survivors included in-hospital deaths and deaths occurring within 30 days. All p values are two-sided, and a p value <0.05 was considered statistically significant.

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was 76.3%, with 90 deaths occurring within the first 30 days of admission (Table 1).

Clinical characteristics

Abdominal pain was the most frequently reported presenting symptom, identified in 115 patients (97.5%), followed by nausea and vomiting in 74 patients (62.7%), diarrhea in 18 patients (15.3%), and melena in 12 patients (10.2%). With respect to the interval between symptom onset and hospital admission, 11 patients (9.3%) presented within the first 12 hours, 18 patients(15.3%)between 12 and 24 hours, and the majority (89 patients, 75.4%) presented after more than 24 hours (Table 1).

Most patients had at least one comorbid condition (n = 95; 80.5%), with atrial fibrillation identified in 35 patients (29.7%). On physical examination, abdominal distension was present in 41 patients (34.7%), abdominal tenderness in 101 (85.6%), guarding in 73 (61.9%), and rebound tenderness in 37 (31.4%). Bowel sounds at presentation were classified as hypoactive in 94 patients (79.7%), hyperactive in 11 (9.3%), and normoactive in 13 (11.0%) (Table 1).

Laboratory parameters

Laboratory evaluation showed leukocyte counts of 0–10,000/μL in 11 patients (9.3%), 10,001–20,000/μL in 63 patients (53.4%), and >20,000/μL in 44 patients (37.3%) (Table 1).

Factors affecting mortality

Univariate analyses compared survivors (n = 28) and non-survivors (n = 90) with respect to 30-day mortality. The mean age of non-survivors (66.38 ± 12.19 years) was significantly greater than that of survivors (60.07 ± 12.35 years; p = 0.019). The sex distribution did not differ significantly between the two groups (Table 2).

No significant associations were identified between mortality and individual presenting symptoms, including abdominal pain, nausea and vomiting, diarrhea, or melena. In contrast, symptom duration was significantly associated with mortality (p = 0.002). Presentation within the first 12 hours was substantially more frequent among survivors (25.0%) than non-survivors (4.4%), whereas delayed presentation exceeding 24 hours was markedly more prevalent among non-survivors (82.2% vs. 53.6%) (Table 2).

Neither atrial fibrillation nor overall comorbidity burden was significantly associated with mortality. Among physical examination findings, abdominal distension was observed more frequently in non-survivors (38.9%) than in survivors (21.4%); however, this difference did not attain statistical significance (p = 0.090). Remaining physical examination findings and bowel sound patterns were likewise not significantly associated with mortality (Table 2).

With regard to laboratory parameters, leukocyte count categories were significantly associated with mortality (p = 0.034). Notably, no survivors had leukocyte counts in the 0–10,000/μL range; this category encompassed 11 non-survivors (12.2%). Massive intestinal necrosis was strongly associated with mortality: it was identified in 70.0% of non-survivors compared with 21.4% of survivors (p < 0.001) (Table 2).

DISCUSSION

In this retrospective study, we systematically examined the clinical, laboratory, and intraoperative factors associated with 30-day mortality in patients undergoing emergency surgery for acute mesenteric ischemia. The principal findings demonstrate that mortality remains exceedingly high in this patient population and is significantly associated with advanced age, delayed hospital presentation, marked leukocyte count alterations, and the intraoperative presence of massive intestinal necrosis [7,12]. In contrast, the nature of presenting symptoms, several physical examination findings, and certain comorbid conditions appeared to have limited value in demonstrating significant univariate associations with mortality.

The observed 30-day mortality rate of 76.3% in our cohort is consistent with the high mortality ranges reported in the literature [13]. Despite advances in diagnostic imaging and surgical techniques, acute mesenteric ischemia remains one of the most lethal abdominal emergencies, largely due to delays in diagnosis and treatment. In our series, approximately three-quarters of patients presented to the hospital more than 24 hours after symptom onset, a finding that likely contributed substantially to the unfavorable outcomes [14]. Delayed presentation is well known to facilitate progression from potentially reversible ischemia to irreversible intestinal necrosis, thereby diminishing the effectiveness of surgical intervention [9].

Age was significantly associated with mortality in our analysis [15]. The significantly higher mean age among non-survivors may be attributed to diagnostic delays and reduced physiological reserve in elderly patients. Age-related factors such as atherosclerotic vascular disease, cardiac rhythm disturbances, and coexisting systemic illnesses may predispose older individuals to compromised mesenteric perfusion and reduced tolerance to ischemic injury [16]. These findings underscore the importance of maintaining a low threshold for initiating advanced diagnostic evaluation and prompt surgical assessment in elderly patients with suspected acute mesenteric ischemia.

Evaluation of presenting symptoms revealed that abdominal pain was almost universally present; however, none of the common symptoms—including abdominal pain, nausea/vomiting, diarrhea, or melena—was significantly associated with mortality. This observation suggests that the prognostic value of clinical presentation in acute mesenteric ischemia is limited, supporting the well-described concept of a dissociation between pain severity and physical examination findings [17]. Rather than symptom intensity, the duration

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and extent of ischemic injury appeared to be more closely associated with outcome [18].

Symptom duration was one of the clinical variables most strongly associated with mortality in this study [19]. Patients presenting within the first 12 hours demonstrated markedly higher survival rates, highlighting once again the critical importance of early diagnosis and timely surgical intervention. Conversely, the dramatic increase in mortality among patients presenting after 24 hours clearly reflects the time-dependent nature of acute mesenteric ischemia [20]. This finding emphasizes the need for heightened clinical suspicion among emergency physicians and primary care providers when evaluating patients with unexplained severe abdominal pain, particularly in high-risk populations [5].

Neither the presence of atrial fibrillation nor the overall burden of comorbid disease was significantly associated with mortality in our cohort. Although atrial fibrillation is widely recognized as a major risk factor for mesenteric embolism, its lack of association with short-term mortality in this study suggests that postoperative outcomes may be more closely related to the extent of ischemic injury and delays in intervention than to the underlying etiology [21]. Similarly, the lack of a significant association between comorbidity status and mortality suggests that the acute local and systemic consequences of mesenteric ischemia may outweigh the impact of chronic underlying diseases in the early postoperative period.

Among physical examination findings, abdominal distension was more frequent among non-survivors, although the difference did not reach statistical significance. Other signs of peritoneal irritation, including tenderness, guarding, and rebound tenderness, were not associated with mortality. These findings indicate that classical signs of an acute abdomen do not consistently carry prognostic significance in acute mesenteric ischemia [7]. This may be explained by the fact that peritoneal signs often develop late in the disease course and may be subtle or absent during the early, potentially reversible stages of ischemia [6].

With regard to laboratory parameters, only the categorical distribution of leukocyte counts showed a significant association with mortality. The presence of low leukocyte counts among non-survivors may reflect advanced sepsis or a suppressed bone marrow response in late-stage disease [22]. Nevertheless, leukocyte levels alone appear insufficient as reliable prognostic markers and should be interpreted in conjunction with clinical findings and intraoperative assessments.

The most striking finding of this study was the strong association between intraoperative massive intestinal necrosis and mortality [13]. The identification of massive necrosis in 70% of non-survivors suggests that the extent of bowel ischemia is strongly associated with adverse outcomes [1]. Massive necrosis not only necessitates more extensive bowel resection but is also associated with severe sepsis, an increased risk of short bowel syndrome, and multiorgan failure [23]. This observation highlights the critical importance of meticulous intraoperative assessment of bowel viability and supports consideration of staged procedures, including planned second-look operations, in selected patients [24].

Limitations

Several limitations of this study should be acknowledged. The retrospective, single-center design limits causal inference and introduces the potential for selection bias. Moreover, because clinical symptoms and physical examination findings were extracted retrospectively from medical records, information bias cannot be excluded. Several examination findings, including abdominal tenderness, guarding, and rebound tenderness, are inherently subjective and may have been documented variably by different clinicians during the prolonged study period, potentially limiting consistency and standardization of measurements. Additionally, because the study encompasses a 20-year period, temporal changes in diagnostic imaging, surgical techniques, perioperative intensive care practices, and institutional management strategies may have influenced patient outcomes. These changes could not be systematically adjusted for in this analysis and may have introduced unmeasured variability in mortality estimates over time. Furthermore, a standardized etiological classification of AMI subtypes (arterial embolism, arterial thrombosis, mesenteric venous thrombosis, and non-occlusive mesenteric ischemia) was not consistently available throughout the study period, precluding reliable subgroup analyses. Given the heterogeneity of AMI pathophysiology and prognosis, future studies incorporating systematic etiological stratification may improve risk characterization and prognostic precision. Likewise, standardized intraoperative measurements of the extent of bowel involvement were not consistently available, limiting objective quantification of massive intestinal necrosis. Another important limitation is the absence of a multivariable regression analysis. Although multivariable modeling was considered, the relatively small number of survivors (n=28) and the associated risk of overfitting limited the robustness of such analyses. Consequently, the associations identified in this study should be interpreted as univariate observations rather than as independent predictors of mortality, and potential confounding effects between variables cannot be excluded. In particular, clinically relevant factors such as age, delayed presentation, and the extent of intestinal necrosis may be interrelated, and the independent prognostic contribution of delayed presentation could not be reliably distinguished within the present analytical framework. Therefore, the present findings indicate associations with mortality rather than causal or independent prognostic relationships. Future multicenter studies with larger cohorts are warranted to enable robust multivariable analyses and more reliable identification of independent mortality predictors in AMI. Nevertheless, this series spans a 20-year period and includes surgically confirmed cases of acute mesenteric ischemia, providing a robust dataset

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that reflects real-world clinical practice.

CONCLUSION

This study demonstrates that mortality from acute mesenteric ischemia remains unacceptably high and appears to be strongly associated with time to presentation and the extent of intestinal ischemia. Advanced age, delayed hospital admission, marked alterations in leukocyte levels, and the presence of massive intestinal necrosis were the variables most strongly associated with short-term mortality. These findings underscore the pivotal importance of early recognition, prompt surgical decision-making, and aggressive management strategies in patients with suspected acute mesenteric ischemia.

Ethics Committee Approval: The study protocol was approved by the Erciyes University Faculty of Medicine Ethics Committee (Approval no: 2025/541, Date: 26.11.2025).

Informed Consent: Informed consent was waived by the Ethics Committee due to the retrospective design of the study and the use of anonymized data.

Peer-review: Externally peer-reviewed.

Conflict of Interest: The authors have no conflicts of interest to declare.

Author Contributions: Conception and design: S.C., M.K.; Administrative support: M.K.; Provision of study materials or patients: S. C.; Collection and assembly of data: S.C., Data analysis and interpretation: M.K. Manuscript writing: S.C., M.K.; Final approval of manuscript: S.C., M.K. The authors are accountable for all aspects of the work and for ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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Availability of Data and Materials: The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

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