

## Massive Myocardial Infarction Presenting With Abdominal Pain and Non-Specific ECG Findings: A Fatal Case Report

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### Abstract

#### Background

Acute myocardial infarction (AMI) typically presents with chest pain; however, atypical presentations may lead to delayed recognition and fatal outcomes. Abdominal pain accompanied by a normal initial electrocardiogram (ECG) can mask underlying myocardial infarction, particularly in younger patients with cardiovascular risk factors.

#### Case Presentation

A 40-year-old male heavy smoker (two packs per day) initially presented to a general practitioner with severe abdominal pain. Physical examination revealed a soft abdomen with mild epigastric tenderness without guarding or rebound tenderness. No chest pain or other classic cardiac symptoms were reported. Proton pump inhibitors (PPI) and analgesics were prescribed for presumed gastritis. Initial ECG showed no specific abnormalities.

Approximately 24 hours later, the patient developed recurrent abdominal pain accompanied by chest pain and acute dyspnea lasting approximately 30 minutes and called emergency medical services (112). Upon ambulance arrival, oxygen saturation was 82%, blood pressure 80/50 mmHg, and heart rate 136 beats per minute.

The patient appeared pale, diaphoretic, and tachypneic. Cardiac auscultation revealed tachycardia with a regular rhythm and no audible murmurs. Pulmonary examination demonstrated decreased breath sounds at the left lung base with mild bibasilar crackles. Chest radiography revealed left-sided pleural effusion without other acute findings.

Shortly after hospital arrival, the patient experienced sudden cardiovascular collapse. Immediate cardiopulmonary resuscitation (CPR) was initiated with continuous chest compressions and repeated administration of intravenous epinephrine according to advanced life support protocols. Despite resuscitative efforts, return of spontaneous circulation could not be achieved.

Laboratory testing obtained shortly before death demonstrated markedly elevated cardiac biomarkers, including cardiac troponin levels above the institutional cut-off value (0.9 ng/L) and CK-MB levels of 521 U/L, approximately 15–30 times above the upper reference limit, consistent with massive myocardial infarction.

#### Conclusion

This case highlights the diagnostic challenge posed by atypical presentations of myocardial infarction. Clinicians should maintain a high index of suspicion for cardiac causes in patients presenting with unexplained abdominal pain, even when the initial ECG is normal. Early recognition of atypical symptoms and prompt diagnostic evaluation are critical to prevent fatal outcomes.

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**Keywords:** Massive Myocardial Infarction, Atypical Presentation, Abdominal Pain, Normal ECG, Sudden Cardiac Death, Smoking, Cardiopulmonary Resuscitation

## 1. Introduction

Acute myocardial infarction remains one of the leading causes of morbidity and mortality worldwide. The classic clinical presentation includes retrosternal chest pain radiating to the arm, jaw, or shoulder and is frequently associated with diaphoresis, nausea, and dyspnea. However, a significant proportion of patients present with atypical symptoms, including abdominal pain, nausea, vomiting, fatigue, or isolated dyspnea.

These atypical manifestations may delay diagnosis, particularly in primary care settings where gastrointestinal or pulmonary conditions may initially be suspected. Additionally, early electrocardiographic findings may appear normal or non-specific during the early stages of myocardial ischemia, which may further complicate the diagnostic process.

This report describes a fatal case of massive myocardial infarction in a relatively young heavy smoker whose initial presentation with isolated abdominal pain and normal ECG findings led to delayed recognition and rapid clinical deterioration.

## 2. Case Presentation

A 40-year-old male with a history of heavy tobacco use (two packs of cigarettes per day) presented to a general practitioner with severe abdominal pain. The abdomen was soft with mild epigastric tenderness without guarding or rebound tenderness. No chest pain or other typical cardiac symptoms were reported.

Based on the clinical findings, the patient was treated for presumed gastritis and was prescribed proton pump inhibitors and analgesics. An electrocardiogram performed during this visit showed no specific abnormalities.

Approximately 24 hours later, the patient developed acute dyspnea lasting approximately 30 minutes, accompanied by recurrent abdominal pain and chest discomfort. Emergency medical services (112) were activated.

### Upon Ambulance Arrival:

- **Oxygen saturation: 82%**
- **Blood pressure: 80/50 mmHg**
- **Heart rate: 136 beats per minute**

The patient appeared tachypneic, pale, and diaphoretic.

Cardiac auscultation revealed tachycardia with a regular rhythm and no audible murmurs. Pulmonary examination demonstrated decreased breath sounds at the left lung base with mild bibasilar crackles. The abdomen remained soft with mild epigastric tenderness without guarding or rebound tenderness. Peripheral pulses were weak but symmetric, and extremities were cool. No peripheral edema or signs of deep vein thrombosis were observed.

Given the presence of acute dyspnea, chest radiography was performed, revealing left-sided pleural effusion without other significant acute findings.

Shortly after arrival at the hospital, the patient experienced sudden cardiovascular collapse. Immediate cardiopulmonary resuscitation (CPR) was initiated, including continuous chest compressions and repeated administration of intravenous epinephrine according to advanced life support protocols.

Despite resuscitative efforts, return of spontaneous circulation could not be achieved, and the patient was pronounced deceased.

Laboratory testing performed shortly before death demonstrated markedly elevated cardiac troponin levels above the institutional cut-off value (0.9 ng/L) and CK-MB levels of 521 U/L, confirming massive myocardial infarction.

## 3. Discussion

Atypical presentations of myocardial infarction are well recognized but remain diagnostically challenging. Symptoms such as abdominal pain, nausea, dyspnea, or fatigue may obscure the underlying cardiac pathology and lead to misdiagnosis.

In the present case, the patient initially presented with isolated abdominal pain and a normal electrocardiogram, leading to an initial diagnosis of gastritis. Epigastric pain as the primary manifestation of myocardial infarction has been described in the literature and may mimic gastrointestinal disorders such as gastritis or peptic ulcer disease.

Another important diagnostic challenge in this case was the absence of specific ECG abnormalities at the initial evaluation. A normal or non-specific ECG does not exclude myocardial infarction, particularly during the early stages of coronary occlusion. For this reason, serial ECG recordings and repeated cardiac biomarker measurements are recommended when symptoms remain unexplained.

The rapid deterioration observed in this patient highlights the potentially fulminant course of untreated myocardial infarction. The presence of a significant cardiovascular risk factor, such as heavy smoking, should increase clinical suspicion even when presenting symptoms are atypical.

Large clinical studies have demonstrated that approximately 30% of myocardial infarction patients present without chest pain, and these patients often experience higher mortality rates due to delayed diagnosis and treatment.

This case underscores the importance of considering cardiac

etiologies in patients presenting with unexplained abdominal pain, particularly in individuals with cardiovascular risk factors. Early ECG evaluation, repeated cardiac biomarker testing, and careful clinical reassessment are crucial for timely diagnosis.

#### 4. Conclusion

Massive myocardial infarction may occasionally present with atypical symptoms such as isolated abdominal pain and an initially normal electrocardiogram, which may delay diagnosis and treatment.

This case highlights the importance of maintaining a high index of suspicion for acute coronary syndromes in patients with unexplained abdominal pain, particularly in those with significant cardiovascular risk factors such as heavy smoking.

Early recognition of atypical presentations, prompt electrocardiographic evaluation, and timely measurement of cardiac biomarkers are essential to avoid missed diagnoses and potentially fatal outcomes [1-10].

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