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## Unmasking Gastroesophageal Reflux Disease

Juan Cai <sup>1</sup>

<sup>1</sup> Specialist of Family Medicine, Shanghai, China

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### Corresponding author:

Juan Cai

Specialist of Family Medicine,  
Shanghai, China.

familydoctorshanghai20@gmail.com

### ABSTRACT

This case report presents a rare but intriguing manifestation of gastroesophageal reflux disease (GERD): palpitations. We explore the intricate link between refluxate and cardiac rhythm in a young woman suffering from seemingly unexplained heart palpitations, highlighting the importance of considering gastrointestinal etiologies in patients with atypical cardiac symptoms.

### INTRODUCTION

Gastroesophageal reflux (GER), characterized by the retrograde flow of gastric contents into the esophagus, is a prevalent and multifaceted condition that significantly impacts the global population. This disorder, commonly known as gastroesophageal reflux disease (GERD), manifests as a spectrum of symptoms ranging from mild and occasional heartburn to severe esophageal complications. As one of the most prevalent gastrointestinal disorders, GERD poses a substantial burden on healthcare systems and quality of life. Throughout this exploration, we will navigate the complexities of GER, shedding light on the anatomical structures involved, the role of lower esophageal sphincter function, and the impact of lifestyle and dietary factors on symptomatology. Additionally, we will delve into the diverse clinical presentations of GERD, recognizing its potential to evolve into more severe conditions, such as Barrett's esophagus and esophageal adenocarcinoma (1-4).

As the medical community continues to grapple with the challenges posed by gastroesophageal reflux, this article seeks to synthesize current knowledge and highlight areas of ongoing research. By elucidating the intricacies of GER, we aim to contribute to the collective understanding of this prevalent disorder, paving the way for improved diagnostic precision, targeted therapeutic interventions, and ultimately enhanced

patient outcomes (4-6). Here we present a case with gastroesophageal reflux.

### CASE PRESENTATION

A 28-year-old woman presented with a six-month history of recurrent episodes of sudden, forceful heartbeats. These episodes were often triggered by bending over, straining, or lying down after meals. She denied chest pain, heartburn, or other typical GERD symptoms. Her past medical history was unremarkable, and she did not take any regular medications.

Initial workup, including electrocardiogram (ECG) and Holter monitor, revealed occasional premature ventricular contractions (PVCs) but no sustained arrhythmias. Echocardiography was normal, ruling out structural heart disease. Serum electrolytes and thyroid function tests were within normal limits.

Given the atypical presentation and lack of obvious cardiac etiology, GERD was suspected as a potential trigger. Esophageal manometry revealed increased esophageal acid exposure, and upper endoscopy confirmed erosive esophagitis.

A trial of proton pump inhibitor therapy was initiated, along with dietary and lifestyle modifications to reduce reflux. Within a few weeks, the patient's palpitations significantly improved, occurring less frequently and with reduced intensity. After three months of therapy, she reported complete resolution of palpitations and remained symptom-free for six months of follow-up.

## DISCUSSION

GERD, characterized by the backflow of gastric contents into the esophagus, is a common condition often associated with typical symptoms like heartburn, regurgitation, and dysphagia. However, a less recognized manifestation is esophageal hypersensitivity, which arises from chronic irritation of the esophageal mucosa by refluxate. The intricate interplay of anatomical, physiological, and environmental factors contributes to the development and exacerbation of gastroesophageal reflux. Understanding the underlying mechanisms of GER is essential for the advancement of diagnostic strategies, therapeutic interventions, and preventive measures. This article aims to provide a comprehensive overview of gastroesophageal reflux, encompassing its epidemiology, pathophysiology, clinical manifestations, and contemporary diagnostic and therapeutic modalities (6-11).

Esophageal hypersensitivity can trigger various atypical symptoms, including: Chest pain mimicking angina, Difficulty swallowing (dysphagia), Globus sensation (lump in the throat), Cough, Wheezing, And, as in this case, cardiac arrhythmias like palpitations and PVCs. Several mechanisms may explain the link between GERD and palpitations: Refluxate can activate vagal nerve receptors in the esophagus, sending signals to the heart and potentially triggering arrhythmias. Acidic refluxate can reach the lower esophagus near the diaphragm, which shares innervation with the heart, potentially inducing cardiac rhythm disturbances. Chronic reflux can lead to electrolyte imbalances, particularly magnesium and potassium, which can influence cardiac electrical activity (8-13).

This case highlights the importance of considering GERD as a potential etiology for unexplained cardiac symptoms, especially in the absence of obvious structural heart disease. Early recognition and management of GERD can not only alleviate typical symptoms but also address atypical manifestations like palpitations, significantly improving patient well-being.

While GERD primarily evokes images of heartburn and reflux, its reach can extend far beyond the digestive tract. This case reminds us that the heart and the esophagus are not isolated entities, and understanding their intertwined pathways is crucial for accurate diagnosis and effective management of both gastrointestinal and seemingly unrelated cardiac symptoms. By keeping an open mind and considering atypical presentations, we can empower ourselves to unmask the chameleon of GERD and optimize patient care.

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