

# An Unusual Presentation of Acute Pancreatitis: Case Report Study

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Received: March 2023. Accepted: April 2023; Published: May 1, 2023.

Citation: Aza Ziyada, Reem Hassan, Mansour Elmahdi. An Unusual Presentation of Acute Pancreatitis: Case Report Study. World Family Medicine. May 2023; 21(4): 32-35 DOI: 10.5742/MEWFM.2023.95256089

## Abstract

Acute pancreatitis (AP) is an inflammation of the pancreas and is one of the most common gastrointestinal causes of hospital admission in Qatar. Patients with AP usually experience severe epigastric pain, accompanied by nausea or vomiting.

Acute pancreatitis is typically characterised by increased levels of pancreatic enzymes, but it is rarely accompanied by electrocardiogram (ECG) changes. In this study, we report a case of a patient with mild epigastric pain. According to his medical history, the patient is at high risk for cardiovascular diseases and was found to have ECG changes. As a result, the patient was sent to the emergency department to rule out acute coronary syndrome. Later, the patient was found to have AP with biliary colic and was admitted to the hospital for treatment and discharged for elective cholecystectomy.

We present this case to highlight alternative diagnoses that should be considered in such clinical scenarios.

**Key words:** acute pancreatitis, case report

## Introduction

Pancreatitis is an acute inflammation of the pancreas that typically presents with upper abdominal pain, mainly in the epigastric region, occasionally accompanied by nausea, vomiting and an increased level of pancreatic enzymes due to local tissue injury and systemic inflammatory response [1,2]. The most common causes of the condition are alcohol consumption, gallbladder stones and idiopathic inflammation [3]. Acute pancreatitis (AP) is a leading cause of gastrointestinal cause of hospitalisation in Qatar [4].

Although the underlying mechanisms are not yet fully understood, various electrocardiogram (ECG) changes have occasionally been reported in acute abdomen, including AP [5]. While a few studies have demonstrated ECG abnormalities in AP, the available data are still limited [1,6]. The incidence of acute myocardial infarction (MI) in the setting of AP is very rare [3]. Diagnosing such complex conditions can be challenging, as the symptoms of both conditions are often indiscernible.

Recently, we treated a man with multiple risk factors for coronary artery disease who presented to one of the health centres under the Primary Health Care Corporation (PHCC) with mild epigastric pain and ECG changes, and he was surprisingly found to suffer from AP.

Acute pancreatitis and concomitant MI are uncommon diseases. Vascular complications associated with pancreatitis often lead to morbidity and mortality, resulting in a poor prognosis and necessitating urgent treatment. Therefore, we should be alert when patients with AP experience ECG changes [2,5].

Through this observation and existing literature, we highlight the importance of not underestimating such cases — even those with mild symptoms — to prevent severe illness.

## Case presentation

The patient is a 65-year-old Middle Eastern man with a history of dyslipidemia, occasional alcohol consumption and heavy smoking for more than 20 years. He had his last drink four weeks before his presentation to the PHCC with a complaint of epigastric pain lasting for more than a month. The pain was intermittent and non-radiating and had worsened over the last three days, with associated nausea but no vomiting or chest pain. Food aggravated the pain and there were no specific relievers. He had taken over-the-counter medications three days prior to the presentation with minimal improvement. A systemic review revealed no chest pain, cough, dyspnea or changes in bowel habits. His vitals at the time were stable, with a blood pressure of 134/76, a pulse of 65 beats per minute, a temperature of 36.6 and an SPO2 of 99%.

On examination, the patient appeared generally well, was not in pain or distress, was well nourished, had a soft and lax abdomen, mild epigastric tenderness, no distension, rebound tenderness, rigidity or masses. An ECG revealed a T-wave inversion over inferior and lateral leads, which was not present in his previous ECG from 2016, hence the patient was referred to the emergency department to rule out acute coronary syndrome (ACS).

In the emergency department, the patient was reassessed and was found to be vitally stable with a soft abdomen and mild epigastric tenderness. The ECG was repeated, with the same changes. Blood tests revealed a normal CBC, normal Troponin-T HS level of 12 ng/L, an elevated serum level of lipase at 681 U/L and a CRP level of 28.8 mg/L. An ultrasound of the abdomen was conducted, revealing a distended gall bladder with multiple stones, the largest measuring 9 mm with a normal wall thickness of 2.8 mm. No pericholecystic fluid or probe tenderness was appreciated; however, there was a hypoechoic liver structure adjacent to the gall bladder which required further assessment with an MRI. The patient was admitted under the supervision of a medical team as a case of AP with biliary colic and was treated with supportive care, including fluid replacement, pain control and nutritional support. An MRI showed multiple gallbladder stones and features of liver cirrhosis as well as irregular areas of arterial enhancement in segments IVb and V of the liver, which were compatible with LI-RADS 3.

Figure 1: ECG showing T-wave inversion over inferior and lateral leads

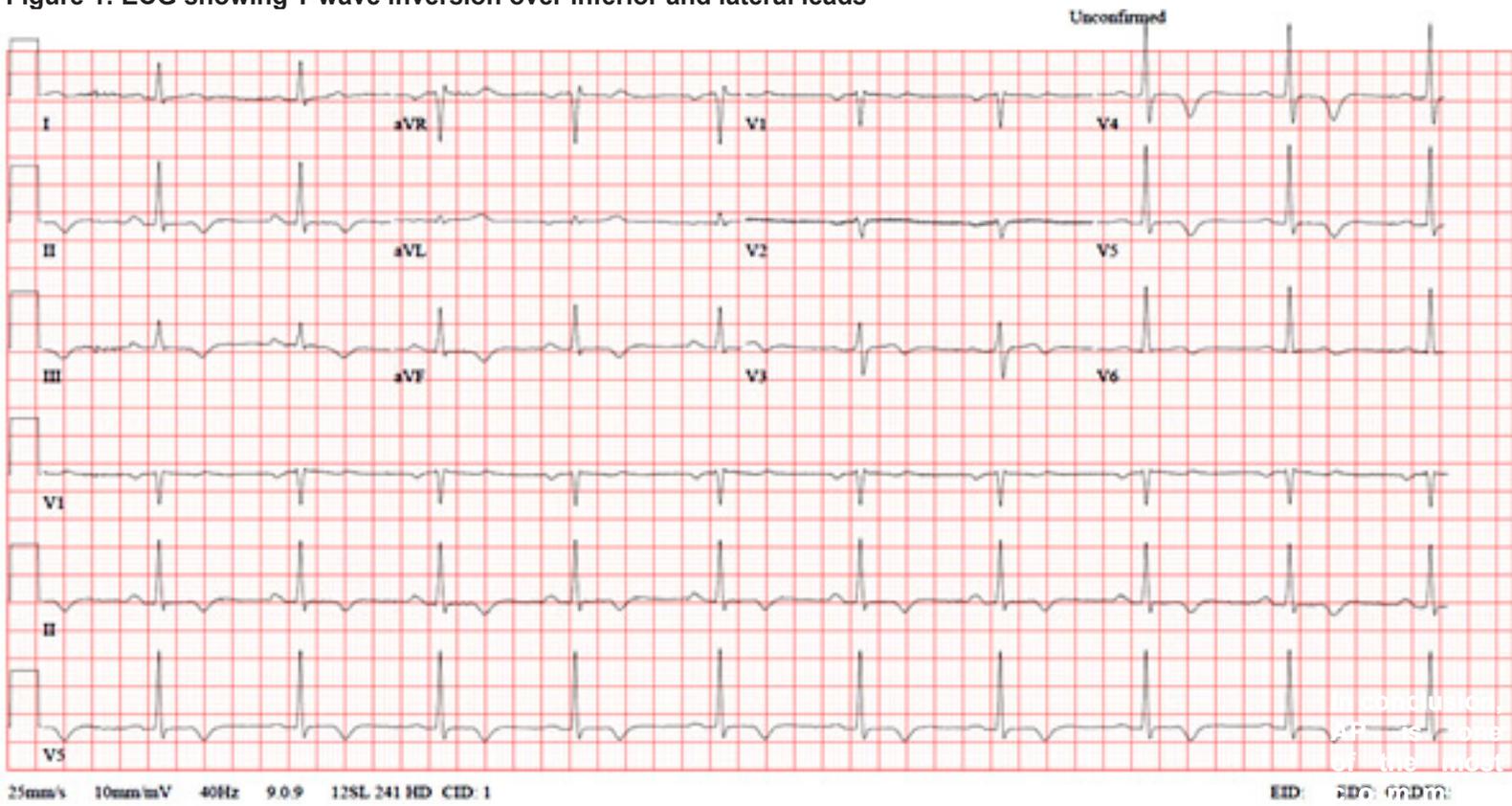
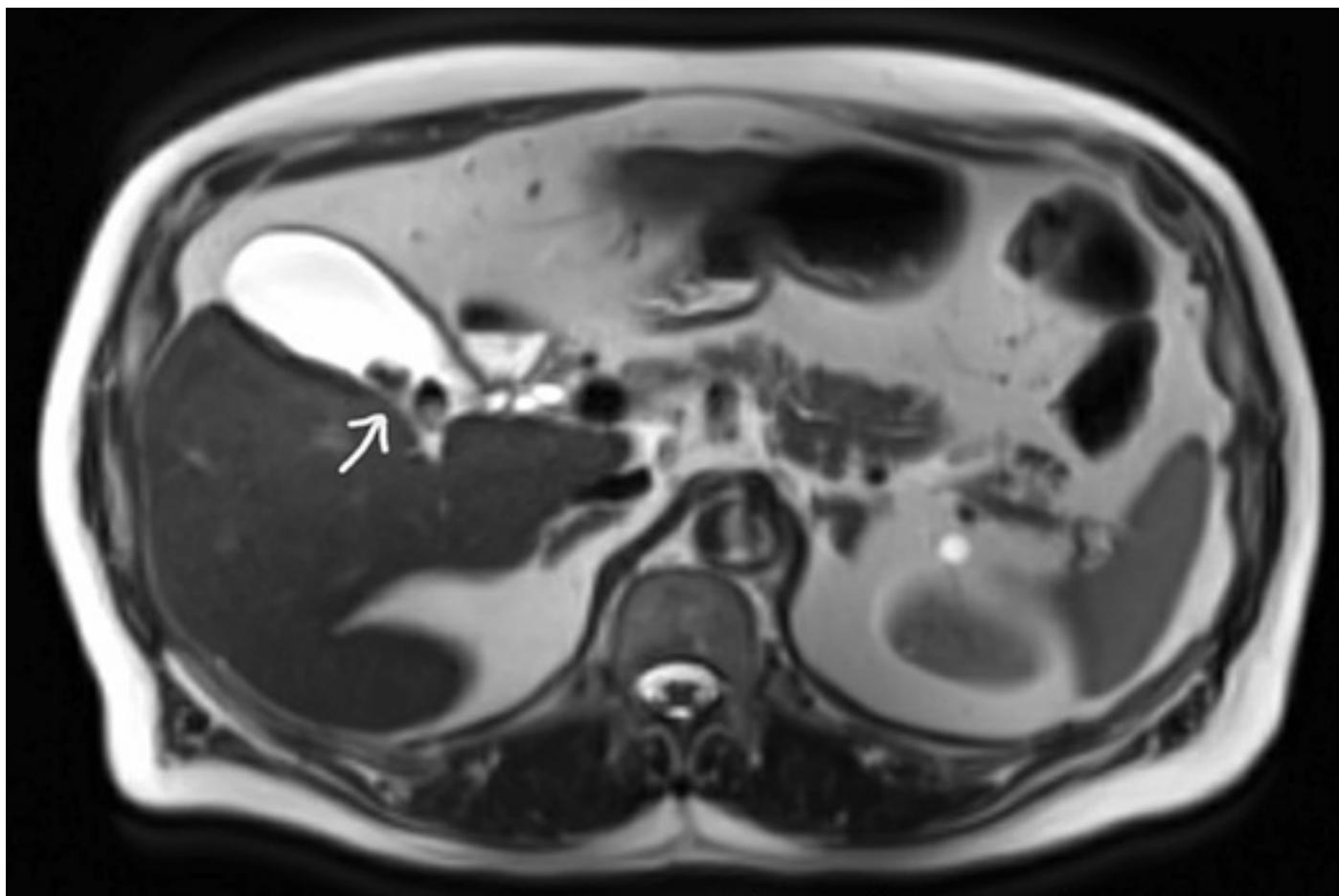


Figure 2: MRI of the abdomen with contrast enhancement showing multiple gallbladder stones



## Discussion

The differential diagnosis of epigastric pain includes pancreatitis, both acute and chronic, acute MI, peptic ulcer disease and gastroesophageal reflux disease [7]. Diagnosing ACS in the context of AP is challenging since classic symptoms overlap, increasing the possibility of overlooking concurrent MI [3].

When evaluating this patient in primary care, the most crucial task was to rule out alarming symptoms. There were no alarming symptoms in his history of the present illness or examination. However, due to the patient's background (dyslipidemia, noncompliance with medication, alcoholism and advanced age), an ECG was ordered to rule out ACS. As epigastric pain can be a symptom of ACS in high-risk patients like this one, the patient was sent to the emergency department. The major challenge was the abnormal ECG findings in the high-risk patient with atherosclerotic cardiovascular disease. However, based on the imaging and biomarkers, AP was reliably diagnosed in this case.

A confirmed diagnosis of AP can only be made after excluding other mimicking entities. Pancreatitis with ECG and biomarker abnormalities is still a diagnosis of exclusion, even in cases with chest pain and tightness [3], only after excluding coronary artery disease, since the differential diagnosis of mild epigastric pain is broad and patients can easily be misdiagnosed.

Upon reviewing the literature, we identified several case reports and serials of AP cases resembling ACS. In the previous literature, Yu summarised more than 30 cases of AP that mimicked MI, among which the inferior wall STEMI pattern was the most common [8]. However, since AP and concomitant MI are uncommon, we should be alert when patients with AP experience ST segment elevation in the ECG because it often results in a poor prognosis and requires urgent treatment [5].

A recently conducted study describing "the incidence and epidemiological features of acute pancreatitis among adult inhabitants in Qatar" concluded that AP is one of the most common gastrointestinal causes of hospital admission in the country. However, the annual incidence rate of AP in Qatar is relatively low and its aetiology tends to be similar to that of many European countries. Cholelithiasis and alcohol consumption are the most common causes [4].

The mean annual incidence rate of AP was 5 per 100,000 adult residents in Qatar from January 2007 to December 2012. The incidence rate among males was higher than that among females. While the mortality rate was low (0.3%), a total of 112 (29.3%) patients experienced complications [4].

## Conclusions

In conclusion, AP is one of the most common gastrointestinal diseases and has a variety of signs and symptoms with varying degrees of severity, which can be easily misdiagnosed. We present a case of epigastric pain with abnormal ECG changes and has high risk for ACS that has been sent to emergency department to rule out ACS but ended up with a diagnosis of AP. Therefore, we must always highlight the importance of not underestimating such cases and to be well trained to rapidly identify such cases—even those with mild symptoms—to prevent severe illness.

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