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**Case Report**

# Acute mercury poisoning complicated by gastrointestinal bleeding

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## ABSTRACT

Mercury poisoning is a rare but potentially serious condition that can result from environmental exposure to elemental mercury. We present a case of a 22-year-young male who presented to the emergency department (ED) with symptoms of mercury poisoning after his family members brought home a vial of elemental mercury. The patient experienced nausea, anxiety, abdominal pain, diarrhea, and fever. Despite normal initial laboratory tests and imaging studies, a presumptive diagnosis of mercury poisoning was made based on the patient's history of exposure and clinical presentation. Although his hospital stay was complicated by passage of blood in stool, possibly lower GI bleed, but treatment with N-acetylcysteine (NAC) was initiated empirically, leading to resolution of symptoms and a favorable outcome. This case highlights the importance of considering mercury poisoning in patients with appropriate exposure history and the effectiveness of NAC in the treatment of acute mercury poisoning. Public education on the hazards of mercury and the importance of prompt recognition and treatment are essential in preventing severe complications associated with mercury exposure.

**Keywords:** Mercury poisoning, Acute poisoning, Poisoning, GI bleeding due to mercury poisoning, Complicated mercury poisoning, Acute mercury poisoning treatment

## INTRODUCTION

Mercury, a toxic heavy metal, poses a significant threat to human health through various exposure routes, including occupational hazards, environmental contamination, and ingestion of contaminated food. Acute and chronic mercury poisoning can result in a range of clinical manifestations, affecting multiple organ systems and presenting diagnostic challenges. While severe cases of mercury poisoning are now rare in Western countries due to increased awareness and preventive measures, instances still occur, necessitating a thorough understanding of the clinical presentation, diagnosis, and management of this condition.[1-3]

Here, we present a case of acute mercury poisoning in a 22-year-old man who presented to the emergency department with symptoms of nausea, vomiting, and diarrhoea following accidental inhalation and skin exposure to metallic mercury. This case highlights the importance of considering mercury poisoning in the differential diagnosis of patients presenting with fever of unknown origin, especially in the context of occupational or environmental exposure to mercury.

In this report, we discuss the clinical presentation, diagnostic workup, and management of acute mercury poisoning, emphasizing the importance of early recognition and intervention to prevent potential complications. We also review the current literature on mercury toxicity, including its neurotoxic effects and implications for immune and coagulation systems.[4,5]

This case underscores the need for increased awareness among healthcare providers regarding the diverse clinical manifestations of mercury poisoning and the importance of prompt intervention to improve patient outcomes.

## CASE REPORT

A 22-year-young man presented to the emergency department (ED) after a known exposure to elemental mercury. He brought home a vial of elemental mercury from a friend's house. He consumed the vial in the state of alcohol intoxication. The patient presented with symptoms of mercury poisoning, including abdominal pain, diarrhoea, and fever.

Upon examination, the patient was having tachycardia, tachypnoea and high temperature. He had no significant past medical history. Physical examination revealed no abnormalities in the head, neck, respiratory, cardiovascular, or abdominal regions. Neurological examination was unremarkable, with no signs of paraesthesia, ataxia, or other neurological deficits, but fine tremor of hands was present.

Laboratory tests, including complete blood count, urinalysis, electrolytes, liver function tests, and renal function tests, were within normal ranges. Chest X-ray and cranial computed tomography showed no abnormalities.

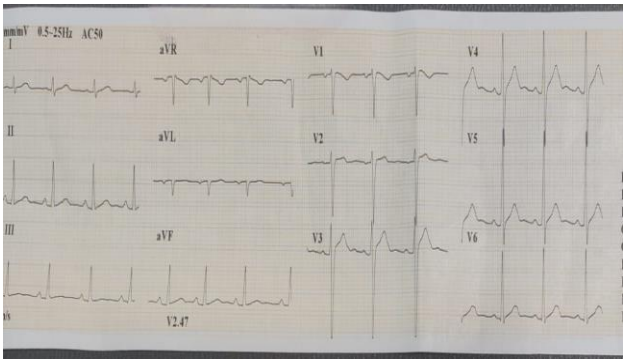


**Figure 1: 12 lead ECG.**

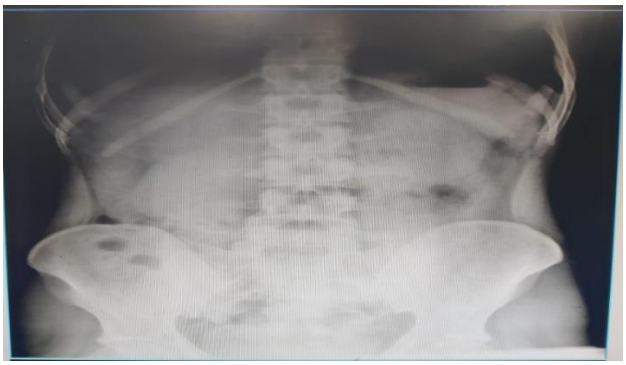

**Figure 2: X-ray abdomen erect.**

Given the patient's history of mercury exposure and symptoms consistent with mercury poisoning, a presumptive diagnosis was made. Treatment with N-acetylcysteine (NAC) was initiated empirically based on clinical symptoms and history, as serum and urine mercury levels could not be tested immediately and other chelation agents were not available.

On the next day patient had history of blood in stool. Imaging studies of abdomen does not reveal any obvious abnormality. He was managed with IV fluids, PPI and haemostatic agents.

Patient was discharged after seven days of hospitalization, with resolution of symptoms and no sequelae. Follow-up visits showed no recurrence of symptoms.

## DISCUSSION

Mercury poisoning is a rare but serious condition that can result from various sources, including environmental exposure. In this case, the patient's exposure to elemental mercury occurred when he brought home a vial of mercury from a friend's house. The patient's symptoms of abdominal pain, diarrhoea, and fever was consistent with acute mercury poisoning.

One of the challenges in diagnosing mercury poisoning is its nonspecific symptoms, which can mimic other common illnesses.[6] In this case, the patient's initial laboratory tests and imaging studies were unremarkable, highlighting the importance of considering mercury poisoning in patients with appropriate exposure history, even in the absence of specific findings.

Chelation therapy with NAC was initiated empirically based on the presumptive diagnosis of mercury poisoning. NAC is a known chelating agent that can effectively bind to mercury and facilitate its excretion from the body.[7,8] The patient's favourable response to NAC supports the diagnosis of mercury poisoning in this case.

It is important to note that mercury poisoning can have serious consequences if left untreated. As in this case GI bleed was promptly evaluated and treated. Prompt recognition and treatment are crucial to prevent severe complications, such as neurological damage and organ failure.[9,10] Public education on the hazards of mercury and the importance of proper handling and disposal of mercury-containing products are essential in preventing mercury poisoning.

## CONCLUSION

This case highlights the importance of public education on the hazards of mercury and the need for prompt recognition and treatment of mercury poisoning including late sequel. With appropriate management, patients can recover fully from acute mercury exposure.

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