



Acute Gastric Dilatation Presenting with Dark-Colored Vomiting without Abdominal Pain: A Case Report

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Abstract

Acute gastric dilatation (AGD) is a rare emergency that may progress to gastric ischemia and perforation if diagnosis is delayed.

A 77-year-old man presented with several days of intermittent dark-colored vomiting without abdominal pain or abdominal distension. Laboratory evaluation demonstrated leukocytosis ($15.9 \times 10^3/\mu\text{L}$), hemoglobin 16.8 g/dL, sodium 147 mmol/L, glucose 203 mg/dL, ketonuria (3+), and glucosuria (3+). Non-contrast abdominal computed tomography (CT) excluded free intraperitoneal air and fluid; review of the CT images demonstrated marked gastric distension with a prominent air-fluid level. Nasogastric decompression evacuated approximately 1500 mL of dark gastric content. The patient received intravenous fluids, antiemetics, and proton pump inhibitor therapy, resulting in rapid clinical improvement without surgical intervention.

AGD should be considered in elderly patients presenting with dark-colored vomiting even in the absence of abdominal pain or visible abdominal distension. Outpatient endoscopy after resolution of the acute episode subsequently identified a distal esophageal mass, highlighting the value of follow-up endoscopic evaluation in such patients.

Introduction

Acute gastric dilatation (AGD) is an uncommon but potentially life-threatening emergency characterized by excessive gastric enlargement due to accumulation of gas or fluid; when complicated by gastric necrosis or perforation, reported mortality reaches as high as 80% [1]. Recognized precipitants include eating disorders, diabetic gastroparesis, trauma, and mechanical causes such as gastric volvulus [1,3,4-6]. Although abdominal pain and abdominal distension are considered typical findings, atypical presentations lacking these features may delay recognition [2]. Computed tomography (CT) is particularly useful because it demonstrates gastric enlargement while excluding other acute abdominal conditions [2].

Case Report

A 77-year-old man with no reported history of eating disorder, prior gastric surgery, or diabetes presented to the emergency department with intermittent dark-colored vomiting for several days. He denied abdominal pain, and physical examination revealed no abdominal distension. He remained hemodynamically stable throughout observation.

Laboratory findings were as follows: WBC $15.9 \times 10^3/\mu\text{L}$, hemoglobin 16.8 g/dL, hematocrit 48.7%, platelet count $282 \times 10^3/\mu\text{L}$, CRP 3.36 mg/L, LDH 277 U/L, sodium 147 mmol/L, potassium 4.46 mmol/L, chloride 94 mmol/L, urea 56 mg/dL, creatinine 1.14 mg/dL, glucose 203 mg/dL, AST 16 U/L, ALT 13 U/L, ketonuria (3+), and glucosuria (3+).

Non-contrast abdominal CT was performed. The official radiology report documented a hiatal hernia and the absence of free intraperitoneal air or fluid. Review of the CT images by the treating emergency physician demonstrated marked gastric distension with a prominent air-fluid level (Figures 1 & 2).



Figure 1: Sagittal non-contrast abdominal CT demonstrating marked gastric distension with an air-fluid level.



Figure 2: Axial CT demonstrating fluid-filled gastric enlargement.

Nasogastric decompression evacuated approximately 1500 mL of dark gastric content (Figure 3). The patient subsequently received intravenous fluids, antiemetic therapy, and proton pump inhibitor treatment. His symptoms improved rapidly, surgical intervention was not required, and he was discharged after observation without recurrence.



Figure 3: Approximately 1500 mL of dark gastric content collected in the drainage bag following nasogastric decompression.

Upper gastrointestinal endoscopy was subsequently performed at an outside facility and revealed a mass lesion at the distal esophagus, raising a preliminary suspicion of esophageal malignancy; histopathological confirmation was pending at the time of this report.

Discussion

This case demonstrates an atypical presentation of AGD in an elderly patient without abdominal pain or visible abdominal distension. The dark appearance of the vomitus initially suggested upper gastrointestinal bleeding; however, preserved hemoglobin concentration and hemodynamic stability argued against significant ongoing hemorrhage, and CT imaging was essential in redirecting the diagnosis by demonstrating marked gastric distension while excluding free air and free fluid.

An important educational aspect of this case is the value of clinician-performed second-look image review. While the official radiology report documented a hiatal hernia and excluded free intraperitoneal air and fluid, it did not comment on the degree of gastric distension. Reassessment of the CT images in light of the patient's persistent vomiting revealed marked gastric distension with a prominent air-fluid level. This highlights that integrating clinical findings with independent imaging review may identify clinically relevant abnormalities that are not necessarily emphasized in the initial radiology report, thereby facilitating timely diagnosis and appropriate management in the emergency department.

The coexistence of a hiatal hernia is noteworthy, as paraesophageal and hiatal hernias are recognized predisposing factors for gastric volvulus, a mechanical cause of AGD that carries a distinct risk of strangulation and requires prompt exclusion [6]. In the present case, the absence of the classic Borchardt triad (epigastric pain, retching with inability to vomit, and failed nasogastric tube passage) and the successful passage and drainage via nasogastric decompression argued against volvulus, favoring a non-mechanical (dysmotility-related) mechanism of dilatation; however, this distinction should be actively considered whenever a hiatal hernia is identified alongside marked gastric distension.

Prompt nasogastric decompression resulted in evacuation of approximately 1500 mL of gastric contents and rapid symptom resolution without surgery, supported by intravenous fluids, antiemetics, and proton pump inhibitor therapy. Emergency physicians frequently associate dark-colored vomiting with upper gastrointestinal bleeding; this case illustrates that preserved hemoglobin concentration, hemodynamic stability, and CT evidence of marked gastric distension should broaden the

differential diagnosis before anchoring on gastrointestinal hemorrhage, since early recognition and prompt decompression may prevent progression to ischemia or perforation [1].

The patient's mild hypernatremia, elevated urea, ketonuria, and glucosuria were compatible with dehydration and metabolic stress related to repeated vomiting. Hyperglycemia without a prior diagnosis of diabetes has itself been associated with AGD, independent of established gastroparesis [2]; diabetic gastroparesis therefore remained a possible underlying mechanism, although gastric emptying studies were not performed to confirm it.

The subsequent identification of a distal esophageal mass on outside endoscopy is a clinically important finding that warrants careful interpretation. While a distal esophageal lesion would not be expected to directly obstruct gastric outflow, esophageal malignancy can be associated with paraneoplastic gastrointestinal dysmotility and impaired oral intake, and its temporal relationship to this presentation of AGD cannot be established with certainty from the available data. This finding underscores the importance of outpatient upper gastrointestinal endoscopy after an episode of unexplained AGD, both to exclude a contributing structural lesion and, as in this case, to identify unrelated but clinically significant pathology requiring further oncologic workup.

The principal limitations of this report are the unavailability of venous blood gas analysis and gastric emptying studies, and the fact that histopathological confirmation of the esophageal mass was still pending at the time of writing. Nevertheless, the patient's rapid clinical improvement following prompt nasogastric decompression and the absence of acute surgical findings support conservative management of the AGD episode itself.

Conclusion

Emergency physicians should consider acute gastric dilatation in elderly patients presenting with dark-colored vomiting, even when abdominal pain and visible abdominal distension are absent. Independent review of CT images, alongside the official radiology report, and prompt nasogastric decompression may prevent unnecessary surgery and serious complications. Given the incidental identification of a distal esophageal mass on subsequent endoscopy in this patient, outpatient endoscopic evaluation should also be considered following resolution of an unexplained AGD episode.

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