Journal of Medical and Health Studies (JMHS)
ISSN: 2710-1452
DOI: 10.32996/jmhs
Journal Homepage: www.al-kindipublisher.com/index.php/jmhs

JMHS
AL-KINDI CENTER FOR RESEARCH AND DEVELOPMENT

| RESEARCH ARTICLE

Large B Cell Lymphoma as A Rare Cause of Gastrointestinal Bleeding and Melena in An Elderly Patient: A Case Report

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| ABSTRACT

Large B-cell lymphoma is a rare form of non-Hodgkin lymphoma that can affect the gastrointestinal (GI) tract and poses diagnostic challenges owing to its non-specific symptoms. This study reports the case of a 70-year-old male with a history of cardiovascular disease who presented with melena and vague abdominal pain, initially regarded as emerging from common GI disorders. Endoscopic findings revealed large gastric ulcers with suspicious features, and biopsy confirmed the diagnosis of large B-cell lymphoma. Imaging showed metastasis, complicating the patient's condition. Managing this case required careful balancing of antiplatelet therapy for his cardiovascular disease with the pressing need to control GI bleeding. The patient benefited from a multidisciplinary approach involving gastroenterology, cardiology, and oncology teams. This case shows the importance of early endoscopic evaluation and biopsy in elderly patients with persistent GI symptoms, as early diagnosis of rare conditions like gastric lymphoma can significantly improve treatment outcomes.

| KEYWORDS

Antiplatelet therapy, biopsy, cardiovascular diseases, endoscopy, stomach ulcers, gastrointestinal hemorrhage, b-cell lymphoma, melena

| ARTICLE INFORMATION

ACCEPTED: 10 November 2024 **PUBLISHED:** 19 November 2024 **DOI:** 10.32996/jmhs.2024.5.4.13

1. Introduction

Large B-cell lymphoma is a type of non-Hodgkin lymphoma that develops in the lymphoid tissues and can affect multiple organs, including the gastrointestinal (GI) tract. While lymphomas generally originate in the lymph nodes, extra nodal lymphomas arise in organs like the stomach, intestines, and liver [1]. These GI lymphomas (including Burkitt's lymphoma) are rare, accounting for only about 0.9 % of all GI tumors and less than 0.5% of colonic tumors [2], with the stomach being the most common primary site [3].

Primary gastric lymphomas are sometimes misdiagnosed, as they replicate symptoms of frequently encountered GI disorders, such as peptic ulcer disease and gastritis. Symptoms, such as abdominal pain, melena, and nausea, notably overlap with these other conditions, leading to diagnostic challenges [4,5]. Because these symptoms are non-specific, cases of gastric lymphoma frequently face diagnostic delays, exacerbating the likelihood of disease progression before initiating therapy.

GI bleeding, which can manifest as melena, is a vital symptom in patients with primary gastric lymphoma. Melena is typically associated with upper GI bleeding and indicates bleeding originating from the stomach or small intestine. However, gastric lymphomas rarely cause melena [6], making this a unique presentation and often complicating the diagnostic process. Many cases of GI bleeding are linked to more common causes like peptic ulcers or gastritis.

Old people are at higher risk of gastric lymphoma, as age is a key risk factor for the emergence of lymphomas. As people age, changes in the immune system can increase susceptibility to lymphoid malignancies [7]. Elderly people often have other health conditions, such as hypertension and cardiovascular disease, which can further complicate treatment options and outcomes. This complexity makes it essential for healthcare workers to consider lymphoma in differential diagnoses when elderly patients present with GI symptoms.

For patients with a history of cardiovascular disease, management of gastric lymphoma is particularly challenging. Many are on medications like antiplatelet therapy, which increases the risk of bleeding—a major concern context of gastric lymphoma. Stopping antiplatelet therapy can lead to complications, but continuing it increases the bleeding risk, which adds complexity and challenges to management decisions. Balancing these treatments necessitates a careful interdisciplinary approach among specialists to ensure better results and more favorable outcomes in terms of prognosis.

Final diagnosis of gastric lymphoma typically involves endoscopic examination and biopsy, as imaging alone often fails to distinguish lymphoma from other malignancies [8]. During endoscopy, suspicious ulcers and lesions can be sampled to confirm lymphoma. Biopsy findings can differentiate lymphoma from other GI disorders and help establish the type and stage of the disease, which are crucial for determining the most suitable treatment approach [9].

Treatment for gastric lymphoma often involves chemotherapy, which is usually highly effective for large B-cell lymphoma [10]. Early diagnosis and treatment are crucial prognostic factors for many patients. In cases where diagnosis is delayed, disease progression may reduce treatment success rates and affect survival rate negatively.

2. Case Presentation

A 70-year-old male with a medical history of hypertension, dyslipidemia, ischemic heart disease, and previous coronary artery bypass grafting (CABG) surgery presented with frequent emergency room visits due to dizziness, abdominal pain, fatigue, and presyncopal episodes. For these symptoms, the patient primarily received non-specific supportive care.

2.1 Presenting Complaint

He reported a one-month history of melena, without any hematemesis. Noteworthy that the patient confidently denied intake of iron supplements or being accustomed to the use of nonsteroidal anti-inflammatory drugs (NSAIDs) other than paracetamol on rare occasions. His symptoms included mild abdominal pain that was poorly localized, unrelated to meals, not associated with bowel habit changes, nausea, vomiting, or hematochezia.

2.2 Medical History

His cardiovascular history includes hypertension, dyslipidemia, and ischemic heart disease, for which he underwent CABG surgery. He had been on dual antiplatelet therapy post-CABG for total period of six months. He had no known history of Helicobacter pylori infection or peptic ulcer disease in the past, nor any liver disease, inflammatory bowel disease, or GI malignancies. Additionally, he reported no history of intravenous drug use or blood transfusions and had no family history suggestive of risk factors for liver disease, inflammatory bowel disease, or GI malignancies. He also denied alcohol intake.

2.3 Physical Examination

On examination, he was vitally stable with a temperature of 37°C, blood pressure of 120/64 mmHg, pulse of 78 beats per minute, and oxygen saturation of 100% on room air. Pallor was noted on examination. Per-rectal examination revealed the presence of blood, but there were no signs of liver disease, such as jaundice, lower limb edema, ascites, palmar erythema, clubbing, spider nevi, gynecomastia, flapping tremors, caput medusae, or organomegaly.

2.4 Laboratory Investigations

Laboratory results showed microcytic hypochromic anemia (hemoglobin level of 8.7 g/dL). His Glasgow-Blatchford score (GBS) was 9, suggesting a high risk for gastrointestinal bleeding. Routine cardiac assessments, including a chest X-ray, ECG, and troponin levels, were all within normal limits.

2.5 Hospital Course and Management

The patient was admitted for further evaluation and management of gastrointestinal bleeding. Initial management included intravenous normal saline at 80 cc/hour and 80mg of intravenous Pantoprazole. Dual antiplatelet therapy was discontinued temporarily to reduce bleeding risk, though clopidogrel was later restarted as a single antiplatelet therapy, considering high cardiovascular risk according to recommendations from the cardiologists. Two units of packed red blood cells were prepared as a precautionary measure only.

2.6 Endoscopic Findings

Upper GI endoscopy showed an empty stomach without coffee-ground content. Multiple large gastric ulcers with raised edges and friable mucosa were observed, raising suspicion for malignancy, particularly lymphoma. The ulcers had a clean base (Forrest

classification 3). Biopsies were taken from the ulcer edges and surrounding mucosa for pathology and additional testing, including tuberculosis culture, GeneXpert, and cytomegalovirus (CMV) testing. Two subepithelial lesions with umbilicated centers and normal overlying mucosa were noted, also biopsied for further analysis **(Figure 1)**.

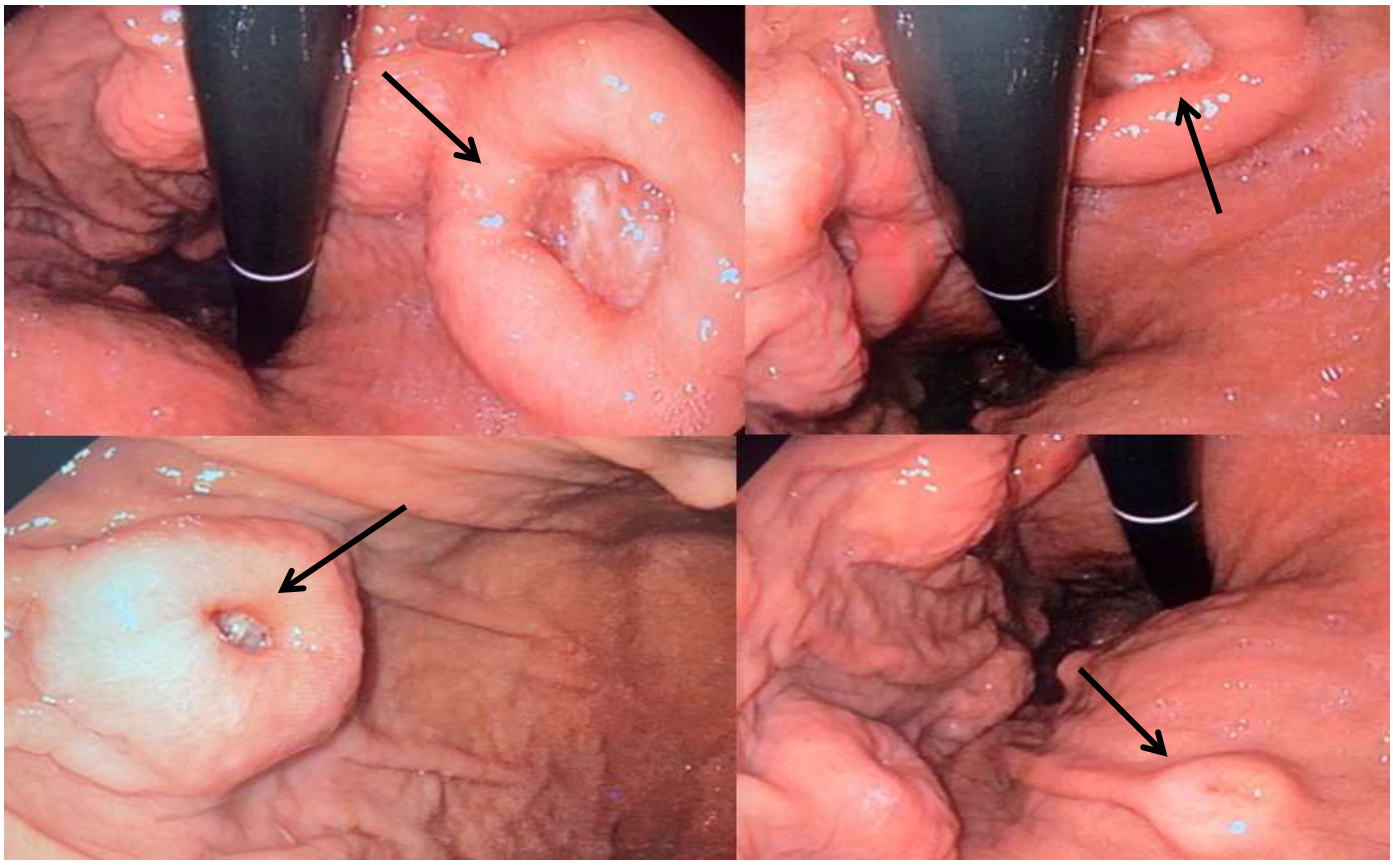

Figure 1: Upper GI endoscopy showing multiple large gastric ulcers (pointed by black arrows) with raised everted edges and friable mucosa.

2.7 Post-Endoscopy Management

After endoscopy, the patient's management included a continuous omeprazole infusion for 72 hours. His complete blood count (CBC) was monitored twice on the day of endoscopy and then daily thereafter, but there was no hemoglobin drop. He was placed on a clear liquid diet, with efforts to maintain hemoglobin levels above 8 g/dL as he received one unit of blood transfusion. Further tests included an HIV and viral hepatitis profile, and a stool chart was initiated. A pan-computed tomography (CT) scan was also ordered to assess the presence of malignancy or metastasis because of the suspicious endoscopic findings. Due to the patient's high cardiovascular risk, cardiology recommended resuming clopidogrel as a single antiplatelet agent.

2.8 Imaging Findings

The pan-CT scan revealed a few suspicious pulmonary nodules in the bilateral lower lobes, raising concerns for metastasis. Additionally, suspicious subcarinal lymphadenopathy was noted. There was evidence of a hiatal hernia with possible asymmetric thickening at the gastroesophageal junction. Slightly prominent portocaval lymph nodes and bilateral external iliac lymph nodes were also observed.

2.9 Biopsy and Pathology Findings

Biopsy confirmed a diagnosis of large B-cell lymphoma. The central portion of the biopsy revealed a B-cell lymphoproliferative disorder compatible with large B-cell lymphoma, while the peripheral portion showed oxyntic type mucosa with chronic inactive gastritis and fundic gland polyps. There was no evidence of Helicobacter pylori infection, intestinal metaplasia, dysplasia, or other malignancies. Immunohistopathology showed immunoreactivity to CD20, CD79a while CD3 and CD5 highlighted the background T cells. **(Figure 2).**

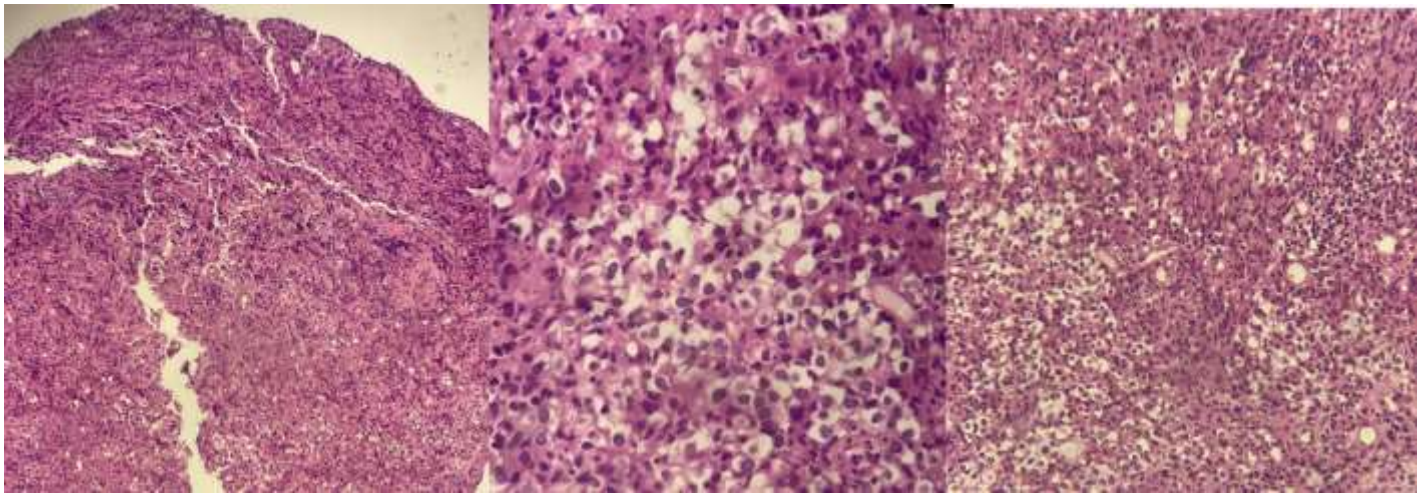

Figure 2: Biopsy images showing aggregates and sheets of atypical lymphoid cells within partially crushed fragments of granulation tissue. These findings are compatible with large B cell lymphoma

2.10 Final Diagnosis and Referral

With a biopsy proven case of gastric large B-cell lymphoma, patient was referred to a tertiary care center for initiation of chemotherapy. Laboratory results, including creatinine, urea, liver function tests, and coagulation profiles, were all within normal ranges. The patient's anemia was classified as microcytic hypochromic, due to chronic gastrointestinal blood loss from the lymphoma.

3. Discussion

This study presented a case of large B-cell lymphoma in a 70-year-old male, who presented with symptoms of GI bleeding and melena. Large B-cell lymphomas in the stomach typically are manifested with vague GI symptoms, which often mimic more common disorders like peptic ulcers and gastritis, making early diagnosis difficult. A similar study by Salcedo et al., showed that gastric lymphomas frequently present with non-specific symptoms, leading to diagnostic delays and mismanagement [11].

The patient's history of hypertension, ischemic heart disease, and recent CABG added complexity to managing his bleeding symptoms. Patients with underlying cardiovascular diseases are commonly on antiplatelet therapy, which can increase bleeding risk, particularly in the GI tract. Previous research, such as that by Tsigkas et al., found that patients on dual antiplatelet therapy often experience more severe bleeding complications when they also have GI malignancies [12]. In this case, careful management of antiplatelet therapy was crucial to control the bleeding while minimizing cardiovascular risks.

Endoscopic findings showed large gastric ulcers with friable, raised edges, which raised suspicion for malignancy. These ulcers were atypical, as most benign ulcers present with smooth edges and a clear base. According to a study by Sung et al., gastric ulcers with irregular or raised edges should be biopsied to rule out malignancy, as they can be an early sign of gastric lymphoma [13]. In our case, the biopsy findings confirmed a diagnosis of large B-cell lymphoma, that signifies the importance of biopsies in suspicious gastric lesions.

The CT findings showed suspicious pulmonary nodules and subcarinal lymphadenopathy, suggesting possible metastasis, which is unusual for gastric lymphoma. However, some studies have reported similar cases with extra nodal spread, especially in advanced stages. A report by Shrestha et al., found that advanced gastric lymphoma could present with spread to non-lymphoid organs, including the lungs [14], showing the need for comprehensive imaging in such cases.

The patient's iron deficiency anemia was likely secondary to chronic GI blood loss from the gastric lymphoma. It contrasts with findings from published studies, which reported that many lymphoma patients experience anemia due to either chemotherapy [15] or bone marrow involvement [16], which complicates their clinical picture and may delay diagnosis if initial symptoms are mild. Managing anemia in such cases requires careful monitoring and, as in our case, blood transfusions to maintain adequate hemoglobin levels during evaluation.

Biopsy confirmed the diagnosis of large B-cell lymphoma, distinguishing it from other possible conditions like chronic gastritis or adenocarcinoma. Previous studies by Tanaka et al. emphasized the role of histopathological examination in differentiating gastric lymphoma from adenocarcinoma, as both can present with similar ulcerative lesions but require very different treatment approaches [17]. Thus, thorough biopsy and pathological evaluation are essential steps in reaching final diagnosis.

This case report shows the importance of multidisciplinary care, especially in complex cases where GI malignancies co-exist with cardiovascular disease. Management required collaboration among gastroenterology, cardiology, and oncology teams to address both the bleeding and the need for ongoing antiplatelet therapy. Thus, this case encourages clinicians to consider gastric lymphoma as one of the differentials in similar cases, as early and accurate diagnosis greatly impacts treatment success.

4. *Conclusion*

Large B-cell lymphoma can present with unusual symptoms like GI bleeding and melena, which can make diagnosis difficult, especially in older patients with other health conditions. This case study shows the importance of considering gastric lymphoma when symptoms persist and do not respond to standard treatments for common GI problems. Endoscopy and biopsy were essential for the final diagnosis of lymphoma, as imaging alone couldn't confirm this condition. It also emphasizes the value of multidisciplinary care, where gastroenterology, cardiology, and oncology teams worked together to guide diagnosis and treatment.

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