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Primary Gastric Burkitt Lymphoma Mimicking Gastric Carcinoma in a Young Adult: A Rare Case Report

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ABSTRACT

Burkitt lymphoma is a highly aggressive B-cell non-Hodgkin lymphoma characterized by rapid proliferation and frequent abdominal involvement in its sporadic form. Primary gastric localization is extremely rare and may mimic more common gastric malignancies. We report the case of a 22-year-old male presenting with abdominal pain and an epigastric mass. Imaging revealed an antral gastric tumor with regional lymphadenopathy and splenomegaly. Endoscopy showed a circumferential ulcerative infiltrative lesion causing luminal narrowing. Histopathological examination confirmed Burkitt lymphoma with a characteristic immunophenotype and a Ki67 proliferation index of 98%. PET/CT demonstrated intense metabolic activity in the antropyloric region with nodal and splenic involvement. This case highlights the diagnostic challenge of gastric Burkitt lymphoma and the importance of early histological confirmation in young patients with gastric masses.

KEYWORDS :

Burkitt lymphoma, Primary gastric lymphoma, Epigastric mass, Case report

MAIN ARTICLE

INTRODUCTION

Burkitt lymphoma is a mature B-cell non-Hodgkin lymphoma characterized by one of the highest proliferative rates among human malignancies. It is classically divided into endemic, sporadic, and immunodeficiency-associated forms. The sporadic variant commonly presents with abdominal disease, most frequently involving the ileocecal region.

Gastrointestinal involvement is well recognized in sporadic Burkitt lymphoma; however, primary gastric localization remains extremely rare. In most cases, gastric lymphomas are represented by diffuse large B-cell lymphoma or MALT lymphoma. Burkitt lymphoma of the stomach is exceptional and may clinically and endoscopically mimic gastric carcinoma, making diagnosis particularly challenging.

We report a rare case of primary gastric Burkitt lymphoma in a young adult and discuss its clinical, radiological, endoscopic, and pathological features in the context of the current literature.

CASE REPORT

A 22-year-old North African male with no relevant medical history presented with progressive abdominal pain associated with an epigastric mass.

Physical examination confirmed a firm epigastric mass.

Abdominal computed tomography (CT) revealed diffuse gastric wall thickening associated with an exophytic antral mass. Multiple enlarged lymph nodes were identified in the celiac, hepatic hilar, and celiomesenteric regions. Homogeneous splenomegaly was also present.

Upper gastrointestinal endoscopy demonstrated a circumferential ulcerative and infiltrative lesion involving the entire antral mucosa, resulting in marked narrowing of the gastric lumen (Figure 1). The endoscopic appearance was highly suggestive of an advanced malignant gastric tumor, particularly gastric adenocarcinoma.

Histopathological examination of gastric biopsies showed diffuse infiltration by medium-sized atypical lymphoid cells. Immunohistochemistry revealed positivity for CD20, CD10, and BCL6, with a Ki67 proliferation index of approximately 98%, consistent with Burkitt lymphoma (Figure 2).

PET/CT imaging demonstrated intense hypermetabolic activity involving the antropyloric region with extension to regional lymph nodes and the splenic area (Figure 3).

The patient was referred to the hematology department for further management.

DISCUSSION

Burkitt lymphoma is an uncommon but extremely aggressive B-cell lymphoma characterized by very rapid tumor growth and a high tendency for extranodal dissemination. Although abdominal involvement is a well-recognized feature of the sporadic variant, gastric involvement remains a rare presentation that is mostly limited to isolated case reports in the literature [1,2].

Across published cases, the stomach is clearly an unusual primary site compared to other gastrointestinal segments, particularly the ileocecal region, which is more frequently affected. Gastric Burkitt lymphoma therefore represents a diagnostic outlier within gastrointestinal lymphomas and is rarely suspected at initial clinical assessment [3,4].

The clinical presentation is typically non-specific, most commonly including abdominal pain, constitutional symptoms, gastrointestinal bleeding, or signs of gastric obstruction. Several reported cases highlight that patients often present at an advanced stage, reflecting the rapid biological progression of this lymphoma subtype [3,5]. In this context, symptoms alone are not sufficient to distinguish it from more common gastric malignancies.

Endoscopic evaluation usually reveals large ulcerative or infiltrative lesions, sometimes circumferential, with significant mucosal destruction. These macroscopic features closely resemble gastric carcinoma or other malignant epithelial tumors, which explains why Burkitt lymphoma is rarely suspected based on endoscopy alone. Multiple case reports emphasize that the lesion morphology is highly misleading and requires biopsy for definitive diagnosis [2,5].

Imaging studies such as CT scans typically demonstrate a gastric mass or diffuse wall thickening, frequently associated with regional lymph node enlargement. In some reported cases, multifocal abdominal involvement or advanced nodal spread is already present at diagnosis. However, radiological features remain non-specific and overlap significantly with other aggressive gastric tumors [1,4].

PET/CT, when performed, shows intense metabolic activity reflecting the very high proliferative rate of the tumor. Published cases indicate that this modality is particularly useful for assessing the full extent of disease, often revealing more widespread involvement than initially expected on anatomical imaging [4].

Definitive diagnosis relies on histopathological and immunohistochemical analysis. Morphologically, Burkitt lymphoma is characterized by a diffuse proliferation of monomorphic medium-sized B cells. Immunophenotyping typically shows expression of B-cell markers such as CD20, along with germinal center markers including CD10 and BCL6. A

nearly 100% Ki67 proliferation index is a consistent finding across reported gastric cases and reflects the extremely high proliferative activity that defines this [3,5]. At the molecular level, many cases demonstrate MYC gene rearrangements, although some variability has been reported in gastric presentations, suggesting potential biological heterogeneity in this rare localization [3].

The main diagnostic challenge lies in differentiating gastric Burkitt lymphoma from other gastric malignancies such as adenocarcinoma, diffuse large B-cell lymphoma, and, less commonly, gastrointestinal stromal tumors. The overlap in clinical presentation, imaging findings, and endoscopic appearance makes histological confirmation essential, particularly in young patients with atypical gastric lesions.

Despite its aggressive behavior, Burkitt lymphoma remains highly responsive to chemotherapy when diagnosed early. However, its rapid doubling time means that delays in diagnosis often result in advanced disease at presentation, as consistently observed in published gastric cases [1,5].

The present case is notable due to its primary gastric involvement in a young adult, its misleading endoscopic appearance suggestive of carcinoma, and its extensive abdominal disease at diagnosis. These features are consistent with previously reported cases and further support the importance of including lymphoma in the differential diagnosis of gastric masses, particularly in younger patients.

CONCLUSION

Primary gastric Burkitt lymphoma is an exceptionally rare entity that may mimic gastric carcinoma both clinically and endoscopically. This case highlights the importance of considering lymphoma in young patients presenting with gastric masses. Histopathological and immunohistochemical analyses remain essential for diagnosis. Early recognition is crucial given the aggressive nature but high chemosensitivity of this disease.

FIGURES :

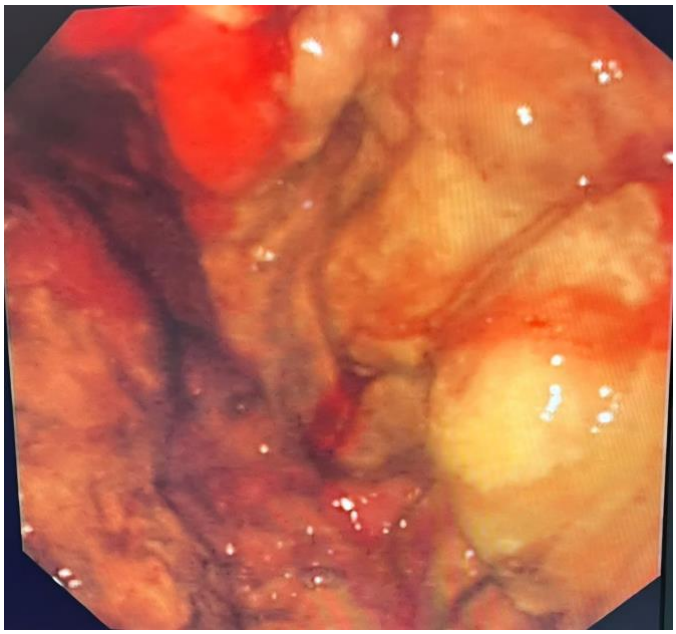

Figure 1 : Endoscopic image showing the ulcerated lesion of the antral mucosa

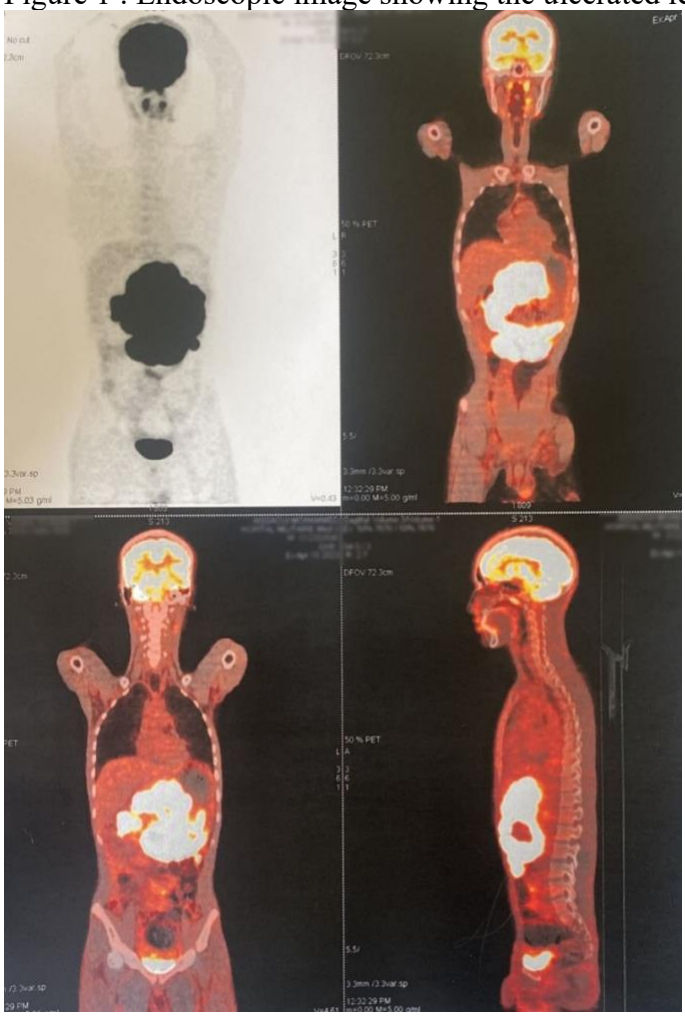

Figure 2 : FDG PET images showing intense pathological abdominal hypermetabolism involving the antrum-pyloric region, extending to the hepatic and splenic hila, and inferiorly down to the bifurcation of the iliac artery.

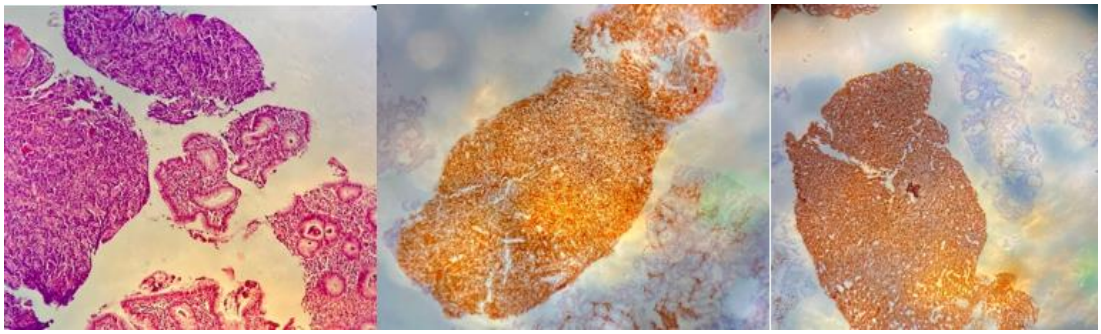

Figure 3 : Histological image of the biopsy from the antral lesion: from left to right: H&E stain ×25, BCL6+, CD20+.

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The authors declare no conflict of interest

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