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CASE REPORTS

Gastric MALT Lymphoma with Giant Ulcer from Untreated H. pylori: Role of Endoscopic Biopsy – A Case Report

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Abstract

Introduction: Gastric mucosa-associated lymphoid tissue (MALT) lymphoma is a rare extranodal non-Hodgkin lymphoma strongly linked to Helicobacter pylori infection. It often presents with nonspecific symptoms like dyspepsia, nausea, and epigastric pain and can mimic other gastric pathologies, such as peptic ulcers or gastric cancer.

This case report is significant as it highlights the importance of thorough biopsy procedures in diagnosing gastric MALT lymphoma. The patient presented with complaints of dyspepsia, nausea, and epigastralgia and had a giant ulcer on endoscopy. Only after biopsies with a large number of samples (over 10) from both normal and abnormal mucosa the diagnosis of MALT lymphoma was established and reconfirmed after immunohistochemistry. The presence of Helicobacter pylori was detected, and after its eradication treatment, the ulcer was more minor and improved from Forrest II-c to III. This case underscores the potential for a wrong diagnosis (undiagnosed MALT-Lymphoma) if biopsy samples are not comprehensive. It also emphasizes the need for suspicion of gastric MALT-Lymphoma and the necessity of more invasive tissue biopsy, such as EUS-FNA, EMR, and ESD, when suspicion persists.

Conclusion: Early diagnosis of gastric MALT lymphoma requires multiple biopsy samples during the initial endoscopy to prevent false negatives. Immunohistochemistry is essential for confirmation, and advanced techniques like EUS-FNA, EMR, or ESD play a significant role when suspicion persists. Timely H. pylori eradication can lead to ulcer healing and better outcomes. Proper endoscopist training is critical to reduce diagnostic delays.

Keywords: Gastric MALT lymphoma, Helicobacter pylori, giant gastric ulcer, endoscopic biopsy, immunohistochemistry.

Introduction

MALT lymphoma, a subtype of indolent B-cell non-Hodgkin lymphoma, arises from extranodal sites due to the malignant transformation of B lymphocytes, primarily triggered by infections or autoimmune processes [1].

Although they can exist in different organs, such as the salivary gland, thyroid gland, breast, lung, bladder, skin, and orbit, MALT lymphomas are most frequently detected in the gastrointestinal tract [2]. The most commonly affected organ is the stomach, where MALT lymphoma is incontrovertibly associated with chronic gastritis induced by a microbial pathogen, Helicobacter pylori [3].

Extranodal marginal zone lymphoma of mucosa-associated lymphoid tissue (MALT lymphoma) of the stomach is a rare entity with an estimated incidence of 0.41/100,000/year [4]. This subtype of non-Hodgkin lymphoma accounts for 50% of primary gastric lymphomas (PGL), which are estimated to represent 2-8% of all stomach malignancies [5].

A gastric MALT-lymphoma is typically a low-grade B-cell neoplasia. Most cases are associated with Helicobacter pylori (H. pylori) [6]. Therefore, line therapy in the early stages eradicates H. pylori. In advanced

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stages, radiotherapy, chemotherapy, immunotherapy, or combination chemoimmunotherapy is recommended [7, 8]

The incidence of gastric MALT lymphoma is increasing, but the diagnosis is difficult [9]. Most patients are asymptomatic or complain of nonspecific symptoms [9].

Gastric MALT lymphoma has variable endoscopic appearance, including erosion, erythema, discoloration, atrophy, ulcer, and subepithelial lesion [10]. Because its endoscopic features are variable and nonspecific, the possibility of this condition may be overlooked [9].

An endoscopic forceps biopsy is the primary diagnostic test, but false negative results are possible [9]. Therefore, clinical suspicion and jumbo biopsy are essential for accurate diagnosis [10].

Here, we report a case of gastric MALT lymphoma diagnosed by biopsy with large numbers of samples (over 10) collected from both normal and abnormal mucosae.

Case description:

A 69-year-old female with a history of chronic gastritis and no previous significant medical conditions presented at the outpatient gastro-enterology clinic with persistent complaints of indigestion, nausea, and epigastralgy. Physical examination showed no pathological signs. The blood routine test showed moderate anemia (Hemoglobulin 9.3 mg/L).

The fecal routine test and occult blood test were regular. The blood biochemistry test, tumor markers, and the urine routine test were all in normal ranges. Gastroscopy identifies in the antral region a giant ulcer **(Forrest II-C)**, with irregular lips of the dirty base which occupies a large part of the antral region, with extension from angulus ventriculi to the pyloric sphincter by occupying a considerable part of it. These endoscopic Findings, particularly the size and location of the ulcer, were indicative of a potential malignancy and prompted a comprehensive biopsy (biopsy with large numbers of samples was taken -over 10).

The biopsy showed atypical lymphocytes and gastric lymphoma of non-Hodgkin was suspected. The stool antigen test for Helicobacter Pylori was positive. CT scan identified irregular thickening of the antrum wall and Para-aortal Sinister Lymphonodes with a diameter up to 6 mm diameter but no metastases. Immunohistochemistry of morphological and immune-phenotypical data compliant with the lymphoproliferative disease of the B cell lymphoma (malt lymphoma). Chronic gastritis in the active phase is also present. Neoplastic cells: CD20 positive, positive CD3, CK AE/AE3 negative. Cytokeratin 7 negatives. CD 117 negative. (Figures 4, 5, 6, 7)

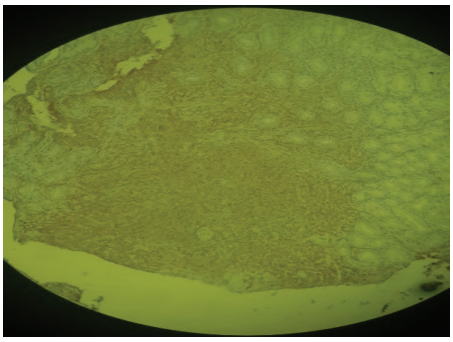

Figure 4 - CD20 positive

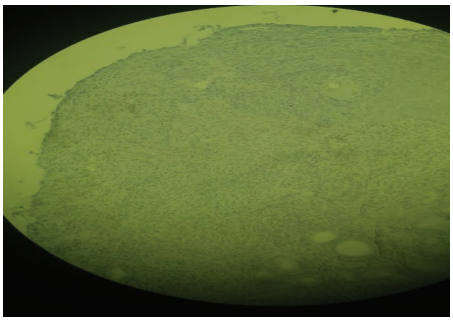

Figure 5 - CD3 Positive

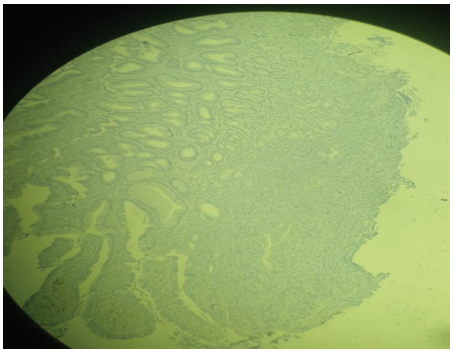

Figure 6 - Cytokeratin 7 Negative

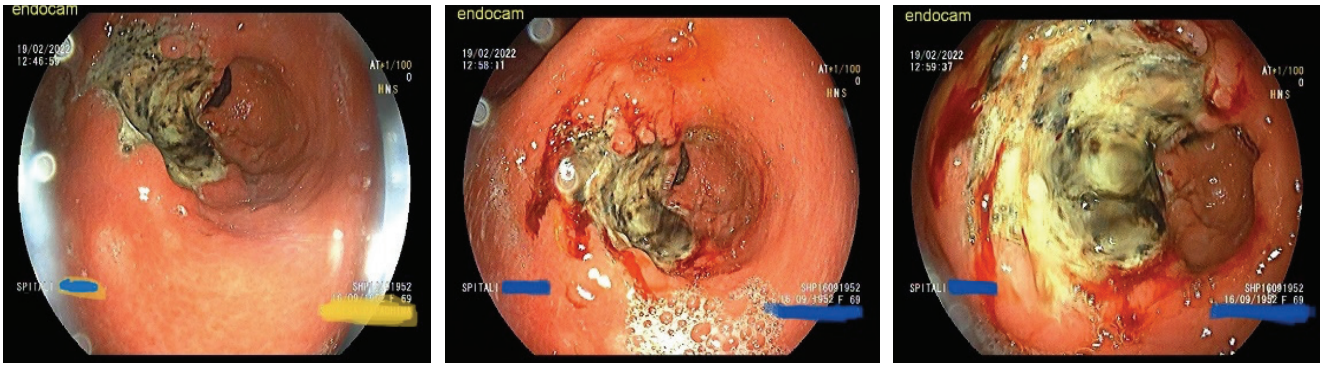

Figure 1, 2, 3: Endoscopic imaging of MALT Lymphoma presenting as a giant ulcer

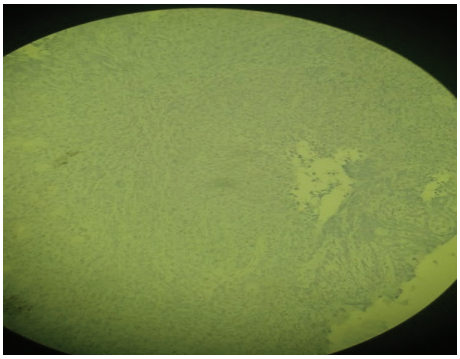

Figure 7 - CD 113 Negative

Eradication therapy with Pylera (bismuth/metronidazole/tetracycline) 4x3 tablets/day for 10 days and double dose PPI was started. The patient is re-examined endoscopically after 2 months in another clinic, concealing the diagnosis, and the endoscopic view shows an ulcer **(Forrest III)** half the previous size, with more regular edges, which is described as benign and 3-4 biopsy samples are taken (Figure 8)

After the biopsy result, only inflammation of the gastric mucosa is described without other suspicious cells. The patient continues to be treated with PPIs, but after another 2 months, the endoscopic re-examination shows the same appearance of the ulcer without any improvement. This time, the patient decides to indicate the immunohistochemical diagnosis and jumbo forceps are used, taking several biopsy samples that are more significant than 10. After the biopsy result is released, the diagnosis of MALT lymphoma is reconfirmed.

Discussion

As we can see in this case, symptoms of gastric MALT lymphoma range from vague dyspepsia and discomfort in the upper abdominal region to epigastralgia and vomitus [11]. Endoscopic appearance can vary from hyperemic gastric mucosa and mucosal petechial hemorrhages to multiple erosions or nodular patterns [8]. Zullo et al. proposed an endoscopic classification of gastric MALT lymphoma in 2014 (table 1) [5]. According to this proposed classification, our case is presented as an ulcerative type.

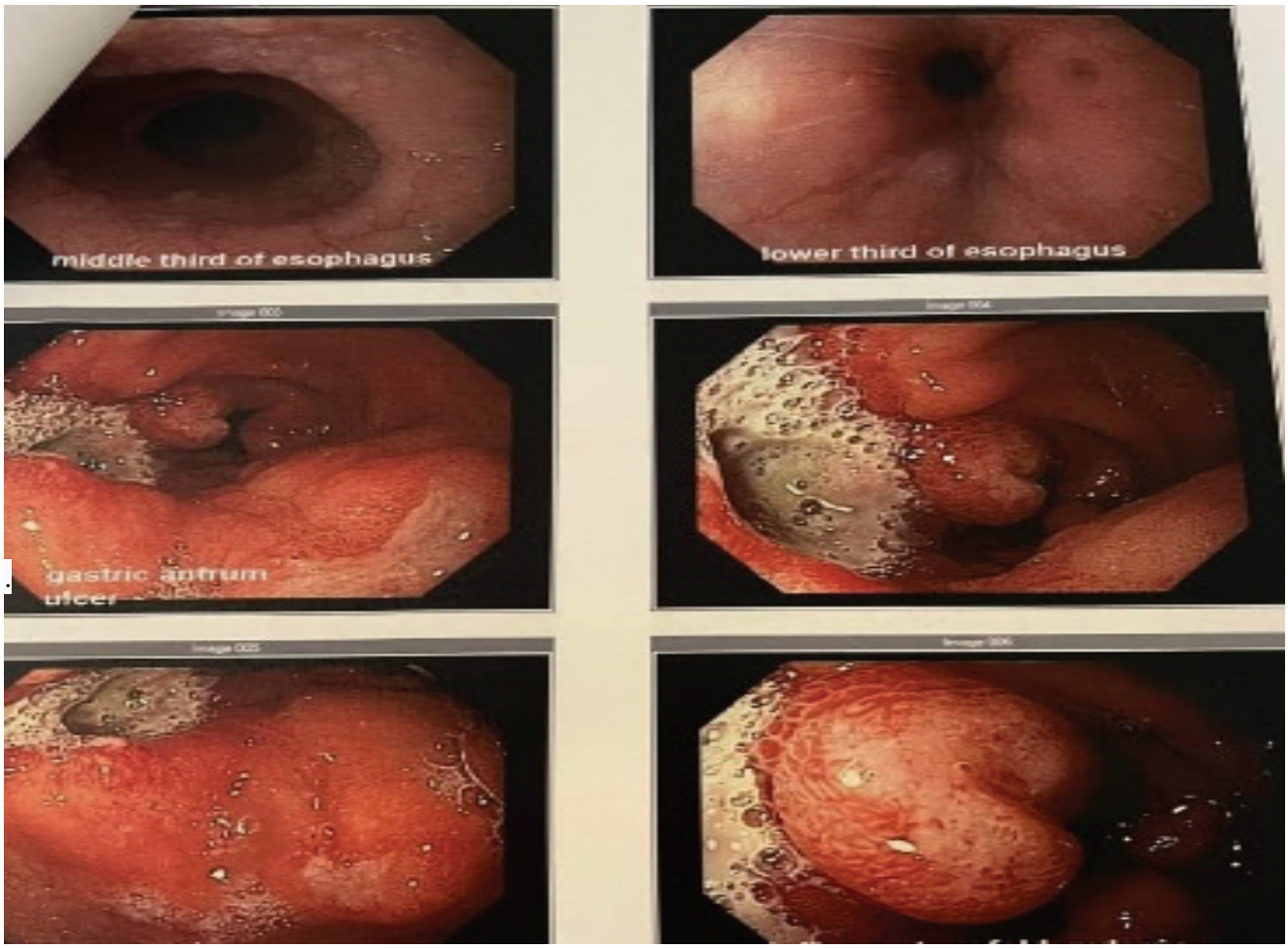

Figure 6 - EGD (Esophagogastroduodenoscopy) images after treating H. Pylori. The ulcer is presenting now, like Forrest III (from II-c before)

Lymphoma type	Endoscopic presentation
Normal/hyperemic mucosa	Normal mucosa/ hyperemicmodification
Petechial hemorrhages	Presence of mucosal petechialhemorrhages
Hypertrophic	Nodular pattern; large or giant folds
Exophytic	Irregular mucosa – tumor-likeappearance or polypoid mass
Ulcerative	Multiple erosions/single or multipleulcerations
Mixed	A combination of more than onepattern

Table 1 - Endoscopic classification of gastric MALT-lymphoma after Zullo A. et al. (5).

Often, patients attempting to hide important anamnestic data can contribute to misdiagnosis or late diagnosis of this pathology. However, the backbone of GML diagnosis remains histology, and it is important to highlight that a sufficient number of biopsies (at least 10) from the lesions and outside des lesions is necessary for a reliable diagnosis (histology, IHC, and detection of *H. pylori*) [12,13]

Conclusions

Primary gastric lymphoma remains a rare pathology. Histologically, the majority of PGL are MALT and DLBCL lymphomas. MALT lymphoma is related to Helicobacter pylori infection. Eradication therapy can reduce gastric MALT lymphoma in the early stages of the disease.

The early diagnosis of gastric MALT lymphoma is difficult because its symptoms and endoscopic findings are nonspecific. Therefore, if an abnormal mucosa is observed during EGD, gastric MALT lymphoma should be considered, and multiple biopsies and EUS should be performed.

A large number of biopsy samples are necessary from the first endoscopy. In addition, the possibility of false-negative results from endoscopic biopsy should be considered, and more invasive tissue biopsy, such as EUS-FNA, EMR, and ESD, may be necessary.

Authors declaration

The authors whose names are listed certify that they have no affiliations with or involvement in any organization or entity with any financial interest (such as honoraria, educational grants, participation in speakers' bureaus, membership, employment, consultancies, stock ownership, or other equity interest; and expert testimony or patent-licensing arrangements), or non-financial interest (such as personal or professional relationships, affiliations, knowledge or beliefs) in the subject matter or materials discussed in this manuscript.

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