A CASE REPORT OF GASTRIC MUCOSA-ASSOCIATED LYMPHOID TISSUE (MALT) LYMPHOMA IN CAN THO UNIVERSITY OF MEDICINE AND PHARMACY HOSPITAL

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ABSTRACT

Non-Hodgkin lymphoma (NHL) is a well-known hematologic malignancy. The gastrointestinal tract is the most commonly involved extra nodal site, and the site of extranodal lymphoma is frequently on the stomach. The most common histological subtypes are extranodal marginal zone B-cell lymphoma of the mucosa-associated lymphoid tissue (MALT) and diffuse large B-cell lymphoma. MALT lymphomas are an uncommon type of NHL, accounting for 5% of all. In this report, we describe a case of extranodal marginal zone lymphoma of mucosa-associated lymphoid tissue (MALT lymphoma) of the stomach with multiple large ulcers in the gastric body and the mucosa is lumpy, solid, and easy bleeding. The endoscopic appearance was similar to that of peptic ulcer disease the corpus. This patient was negative for Helicobacter pylori, and he did not get over illness by internal medicine treatment. This case indicates that, although infrequent, gastric MALT lymphoma can show a large ulcer resembling that of common peptic ulcer disease.

Keywords: *MALT lymphoma; gastrointestinal endoscope; multiple large ulcer; Helicobacter pylori.*

I. INTRODUCTION

Hafsa Abbas showed that non-Hodgkin lymphoma (NHL) was a well-known hematologic malignancy. The gastrointestinal (GI) tract is the most commonly involved extranodal site [7]. According to Aleman BM'research in patients with gastrointestinal lymphoma, the most frequently involved site is in the stomach (60% -75% of cases), followed by the small bowel, ileum, cecum, colon and rectum. The most common histological subtypes are extranodal marginal zone B-cell lymphoma of the mucosa-associated lymphoid tissue (MALT) and diffuse large B-cell lymphoma (DLBCL) [1]. MALT lymphomas are an uncommon type of NHL, accounting for 5% of all. *Helicobacter pylori* was supposed to causing of gastric mucosa-associated lymphoid tissue lymphoma [8], [16]. The most frequent site of extranodal lymphoma is the stomach. Gastric lymphoma originating from mucosa-associated lymphoid tissue was typically a low-grade, B-cell neoplasia strongly associated with *Helicobacter pylori* (*H. pylori*) infection. The clinical presentation is poorly specific and symptoms ranging from vague dyspepsia to alarm symptoms [4].

In this report, we report a case of extranodal marginal zone lymphoma of mucosa-associated lymphoid tissue of the stomach, which presented multiple large ulcers, resembling chronic gastric ulcers. It was noteworthy that the nodularity was predominantly observed in the gastric body, rather than in the antrum. Biopsy examination revealed monomorphic proliferation of B-cells that were positive for CD20, LCA and negative for CD3. Lymphoepithelial lesions were also present, leading to the definitive diagnosis of gastric MALT lymphoma. In this paper we would like to report a gastric MALT lymphoma case that has been treated in Can Tho University of Medicine and Pharmacy Hospital to share information about the uncommon case.

II. MATERIALS AND METHODS

A 47-year-old Vietnamese man was admitted to the Can Tho University of Medicine and Pharmacy Hospital due to severe epigastralgia on November 11th, 2019. He has been frequently in epigastric pain since 2013. This man underwent esophagogastroduodenoscopy screening many times, and anatomical biopsy results showed ulcer chronic active, gastric, low - grade dysplasia. He has undergone internal medicine therapy many times, but he did not get over the illness. Patient admitted to the hospital for initial diagnosis: peptic ulcer disease.

The physical examination revealed no abnormalities while he had mere symptomatic epigastralgia. The laboratory findings demonstrated no remarkable results. Esophagogastroduodenoscopy showed three large ulcers with 20-30mm in diameter. The following day, he had surgery by laparoscopic - assisted distal gastrectomy. The specimen was sent to the anapathology department to determine histopathological characteristics.

The laboratory test: General X-ray, General abdominal ultrasound, ECG, blood chemistry and complete blood count were within the normal ranges.

Esophagogastroduodenoscopy result (November 11th, 2019):

Esophagogastroduodenoscopy showed three large ulcers with 20 to 30 mm in diameter on the corpus. The mucosa is lumpy, solid and easy bleeding. Conclusion: peptic ulcer disease on corpus.

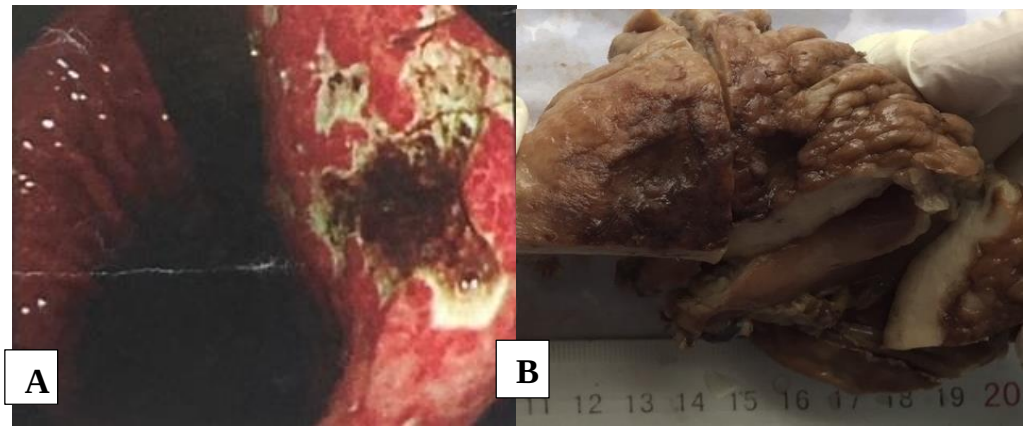

Figure 1. (A) Esophagogastroduodenoscopy image. (B**)** Image of macroscopic injury. A partial gastrectomy showed that ulcerative lesions appeared as a 5cm ulcerated mass.

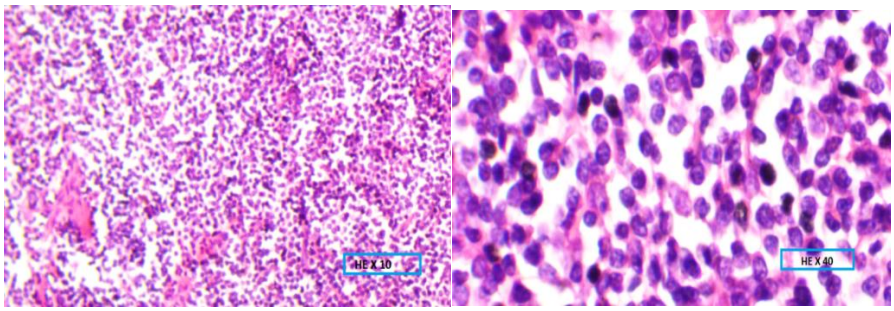

Figure 2. Pathological images Haematoxylin and eosin staining of a biopsy specimen.

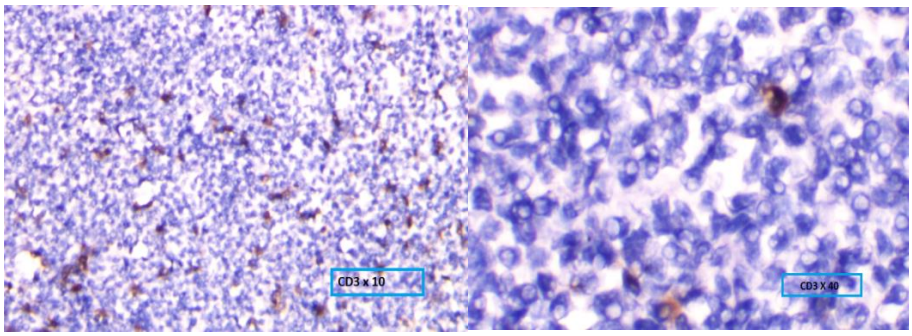

Figure 3. Pathological images: Cell negative for CD3

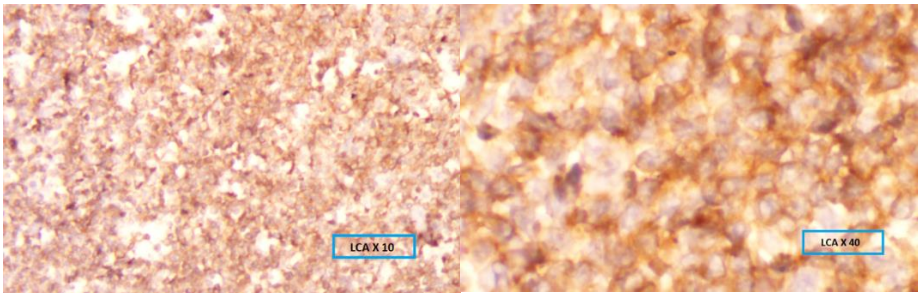

Figure 4. Pathological images: Cell positive for LCA

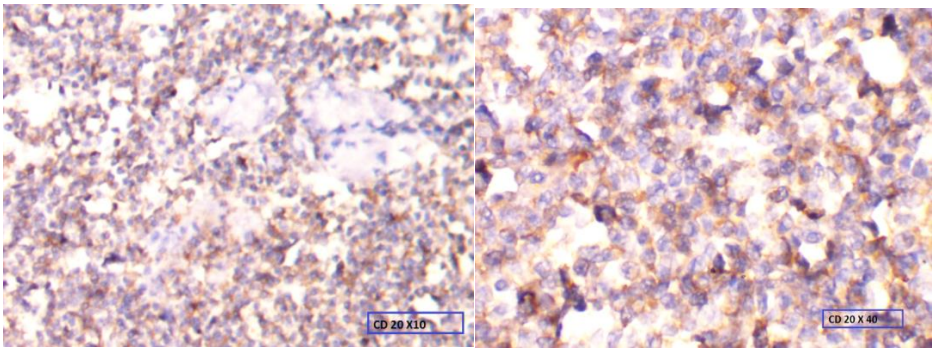

Figure 5. Pathological images: Cell positive for CD20

III. DISCUSSION

The patient had a long history of gastrointestinal disease as chronic peptic ulcer disease not response with internal medicine treatment. This is a possible sign for a case of gastric lymphoma. A literature review showed that almost case of gastric lymphoma was recorded by chance after underwent esophagogastroduodenoscopy for screening purposes as the paper of Masaya Iwamuro et al [13]. Sometimes it is presented as massive upper GI bleeding with no abdominal pain following by Muhammad Begawan Bestari et al's research about a 75-year-old male has a gastric MALT lymphoma [15]; Karim Nashed also recorded about 79-year-old woman presented to the emergency department following a motor vehicle collision. She underwent a CT scan which identified a large mass containing calcifications centred around the gastric antrum. Following the review of imaging and pathology, a diagnosis of gastric mucosa-associated lymphoid tissue (MALT) lymphoma was established [10]. These cases show that gastric lymphoma is rarely presented as a specific clinical presentation, sometimes it resembles a chronic gastric ulcer or finding through routine physical examinations.

The clinical presentations on this patient resemble a chronic gastric ulcer with a multi-large ulcer with 20 to 30 mm in diameter on the corpus. According to Angelo Zullo's research, this lesion may cause by a dense lymphoid infiltrate mainly composed of small-size lymphocytes that invade and destroy gastric glands, configuring the so-called 'lymphoepithelial lesion' which is pathognomonic of lymphoma [3]. It is suitable to explain the gastrointestinal disease of our patient as chronic peptic ulcer disease not responding with treated by many times of internal medicine. However, gastric MALT lymphoma in most cases behaves as an indolent disease. The clinical presentation of gastric lymphoma is poorly specific, symptoms ranging from vague dyspepsia, including epigastric pain or discomfort centered in the upper abdomen to, less frequently, alarm symptoms, such as gastrointestinal bleeding or persistent vomiting that almost case of gastric lymphoma was recorded by chance as we mentioned. The Esophagogastroduodenoscopy showed three large ulcers with 20 to 30 mm in diameter on the corpus. The mucosa was lumpy, solid and easy bleeding. According to Masaya Iwamuro's research, some gastric MALT lymphoma Case report in literature review is showed in the table below.

Table 1. Reported cases with gastric MALT lymphoma resembling follicular gastritis.

No.	Author	Age	Sex	Macroscopic features	Involved area	Treatment	Outcome
1	Cheng *et al* [5]	49	F	Fine granular mucosal change	Lower gastric body and antrum	Eradication of *H. pylori*	Complete remission
2	Lee *et al* [11]	12	F	Diffuse carpet-like mucosal nodularity	Gastric antrum	Eradication of *H. pylori*	Complete remission
3	Masaya Iwamuro *et al* [14]	41	M	Miliary pattern with slightly whitish, small elevations	Gastric body	Eradication of *H. pylori*	Complete remission
4	Masaya Iwamuro *et al* [14]	54	F	Slightly whitish, small, multiple elevations	Gastric body	Eradication of *H. pylori*, radiotherapy	Temporal regression and relapse
5	Present case	47	M	Ulcer chronic active, gastric, low-grade dysplasia	Gastric body	Laparoscopic assisted distal gastrectom	Follow – up surgery

F, female; M, male.

Table 2. Endoscopic presentation of primary gastric MALT-lymphoma

Type	Main endoscopic presentation
Ulcerative	Single or multiple ulcerations or multiple erosions
Exophytic	Tumor-like appearance with an irregular or polypoid mass
Hypertrophic	Large or giant folds; nodular pattern
Mixed	A combination of more than one pattern
Petechial haemorrhage	Presence of several mucosal petechial haemorrhages
Normal/hyperaemic	Normal appearing mucosa/hyperaemic changes

MALT: Mucosal-associated lymphoid tissue [2].

This table shows that almost all lesion cases are located in gastric body. Its manifestations are poorly specific. Meanwhile, we can use the classification table of Angelo Zullo et al about the endoscopic presentation of primary gastric MALT-lymphoma.

Pathogenesis

The pathological results were positive for CD20 and LCA maker showing that the cancer cell origin stemmed from lympho B-cell. The literature review showed that virtually all gastric lymphomas arise from B-cell [19]. They include marginal zone lymphoma of mucosa-associated lymphoid tissue (MALT), which account for nearly 50% of gastric lymphomas, and diffuse large B-cell lymphomas (DLBCL). The marginal zone lymphoma usually named MALT lymphoma is typically low-grade neoplasia. The characteristic of neoplasia showed a dense lymphoid infiltrate mainly composed of small-size lymphocytes that invading and destroying gastric glands, configuring the so-called 'lymphoepithelial lesion' which is pathognomonic of lymphoma [9].

The majority of gastric MALT lymphoma is associated with *H. pylori* infection. *H. pylori* were reported in 50–100 % of Chinese patients with gastric MALT lymphoma [12]. Similar observations were also reported in other areas of the world [6].

The H. pylori test was negative in this patient. There are possibilities that some *H. pylori*-negative cases are falsely negative due to the discontinuous distribution of microorganisms in the gastric mucosa and limited tissue sampling during the biopsy. Prenatal PPI (Proton pump inhibitor) treatment reduces the sensitivity of *H. pylori* detection. Therefore, PPI should be discontinued at least 2 weeks prior to testing for *H. pylori*.

Definitive diagnosis: gastric MALT lymphoma

This patient was diagnosed based on

-Histological classification: gastric MALT lymphoma

-Pathological test result: Biopsy examination revealed monomorphic proliferation of B-cells that were positive for CD20, LCA and negative for CD3

Therapy in uninfected patients

Ruskoné-Four mestraux A suggested an initial therapeutic attempt with *H. pylori* eradication therapy could be attempted even in *H. pylori*-negative patients [18]. Moreover, as pointed out by the observation of complete lymphoma remission following eradication therapy in some uninfected patients [16], [17]. A systematic review of Zullo A, including data of 11 studies with 110 patients with low-grade gastric lymphoma, showed that eradication therapy achieved complete lymphoma regression in 17 (15.5%; 95% CI 8.7-22.2) patients, although *H. pylori* infection was initially excluded with at least 3 different diagnostic tests [20]. As a possible interpretation of these data, it has been suggested either that *H. pylori* infection is present, despite the negative results of all the 3-5 diagnostic tests (i.e. false negative) or that antibiotic therapy may act against other bacteria potentially involved in MALT-lymphoma Therefore, based on the generally indolent behavior of this neoplasia, a novel therapeutic algorithm has been proposed recommending eradication therapy in all low-grade MALT-lymphoma patients, irrespective of *H. pylori* status, before resorting to aggressive, costly, and potentially more toxic oncologic therapies [20]. In this patient, we suggest a PPI treatment course and follow-up for his response.

IV. CONCLUSIONS

We presented a case of gastric MALT lymphoma showing a multiple-large ulcer. Although presentation with such morphology is likely to be infrequent, the present case indicates that gastric MALT lymphoma may present a nodular appearance resembling that of common peptic ulcer disease. Biopsy examination should be performed when the mucosa is lumpy, solid, and easy bleeding is observed, particularly in the gastric body rather than in the antrum. The PPI treatment course is suggested and follow-up for his response.

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