ACG CASE REPORTS JOURNAL

CASE REPORT | COLON

Successful Endoscopic Resection of Mucosa-Associated Lymphoid Tissue Lymphoma of the Colon

Brian L. Schwartz, MD, MPH[1], and Robert C. Lowe, MD[2]

[1]*Department of Medicine, Boston Medical Center, Boston University School of Medicine, Boston, MA*
[2]*Section of Gastroenterology, Boston University School of Medicine, Boston, MA*

ABSTRACT

Mucosa-associated lymphoid tissue lymphomas are the most common form of primary malignant gastrointestinal lymphoma. Although typically found in the stomach, extragastric locations have been described, in rare cases, the colon. The optimal management of these neoplasms remains uncertain and limited largely to small retrospective series or case reports. We report a patient with a colonic mucosa-associated lymphoid tissue lymphoma identified during a routine screening colonoscopy which was removed endoscopically without any adjuvant antimicrobial therapy, chemotherapy, or radiation therapy. She remained disease-free after the 1-year follow-up, providing support to potential endoscopic therapy in appropriately selected patients.

INTRODUCTION

Primary malignant gastrointestinal lymphomas are uncommon, making up less than 1% of all malignant colorectal neoplasms.[1] Mucosa-associated lymphoid tissue (MALT) lymphoma is a rare type of non-Hodgkin B cell lymphoma most often found in the gastrointestinal tract, principally the stomach, although extragastric locations have been reported including the small bowel, colon, and rectum.[2–7] There have been limited retrospective series and isolated case reports published in the literature of primary colonic MALT lymphomas treated with various interventions including surgical resection, endoscopic resection, chemotherapy, antimicrobial therapy, and immunotherapy.[2,3,8–12] There is no standard accepted approach to treatment because of the small number of reported cases and the uncertainty regarding the etiology and natural history of such lesions. The lack of consistent data specifically regarding the management of these patients makes ongoing reports of sporadic and isolated cases of value in an attempt to add to our understanding of this uncommon disease. We present an unusual case of a primary colonic MALT lymphoma discovered as an incidental finding during a screening colonoscopy which was successfully treated with endoscopic resection, without adjuvant therapy or empiric *Helicobacter pylori* eradication.

CASE REPORT

A 69-year-old asymptomatic woman presented for routine screening colonoscopy in May 2017. Her family history was notable for her mother, alive at age 91, with non-Hodgkin B cell lymphoma and a sister who died of follicular lymphoma. Her physical examination was normal without any evidence of peripheral adenopathy or hepatosplenomegaly.

During the colonoscopy, a 25-mm broad polypoid slightly nodular lesion, with indistinct borders suggestive of a sessile serrated polyp, was identified in the hepatic flexure (Figure 1). This was removed entirely in a piecemeal fashion with saline-assisted polypectomy, and the adjacent site was marked with a sterile carbon suspension. The pathology demonstrated a dense monotonous lymphoid infiltrate comprising small- to medium-sized cells with vesicular chromatin, indistinct nucleoli, and a small to moderate amount of pale clear cytoplasm.

Lymphoepithelial lesions and multiple reactive germinal centers were identified (Figure 2). Immunohistochemistry stains were positive for CD20, BOB-1, BCL-2, and CD23 (small subset) and negative for CD5, CD10, BCL-6, CD43, CD15, and Cyclin D1. The

ACG Case Rep J 2019;6:e00228. doi:10.14309/crj.0000000000000228. Published online: October 22, 2019

Correspondence: Brian L. Schwartz, MD, MPH, Department of Medicine, 715 Albany St. E-113, Boston, MA 02118 (brian.schwartz@bmc.org).

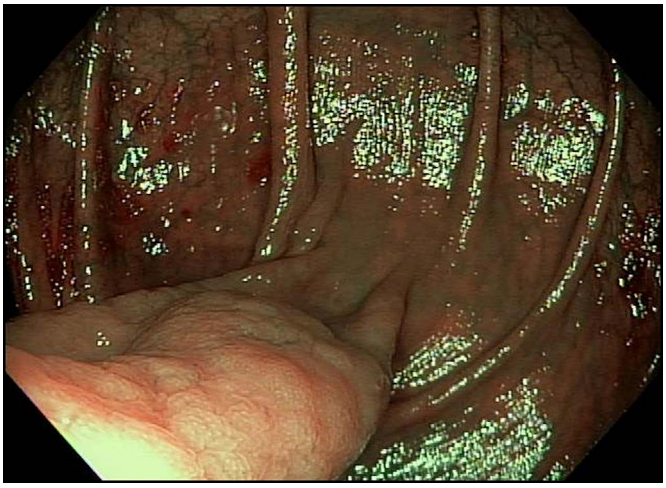

Figure 1. Colonoscopy showed a 25-mm polypoid, slightly nodular lesion with indistinct borders in the hepatic flexure (narrow band imaging).

Ki-67 proliferation index was 10%–20% in the neoplastic infiltrate (Figure 3). This was diagnosed as a low-grade B cell lymphoma, consistent with an extranodal MALT lymphoma. Further evaluation after the diagnosis was performed included negative stool testing for *Helicobacter pylori* antigen. Esophagogastroduodenoscopy demonstrated gastritis without evidence of *H. pylori*, and a computed tomography of the chest, abdomen and pelvis with enterography did not demonstrate any adenopathy or other gastrointestinal lesions. The patient was staged as IE lymphoma.

Consultation by the oncology service suggested ongoing conservative follow-up with imaging and repeat endoscopic surveillance. A follow-up colonoscopy in May 2018 identified the previously resected site by the mucosal tattoo marking and

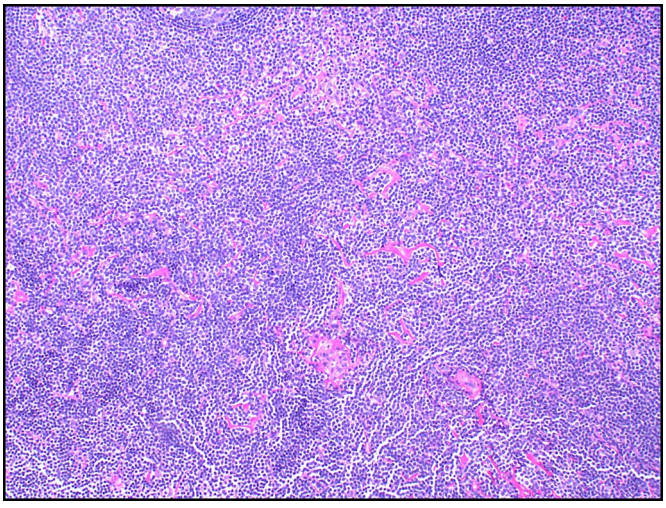

Figure 2. Hematoxylin & eosin stain at a medium-power view showing the heterogeneous population of B cells including plasmacytoid population, small lymphocytes, centroblast-like cells, and scattered immunoblasts.

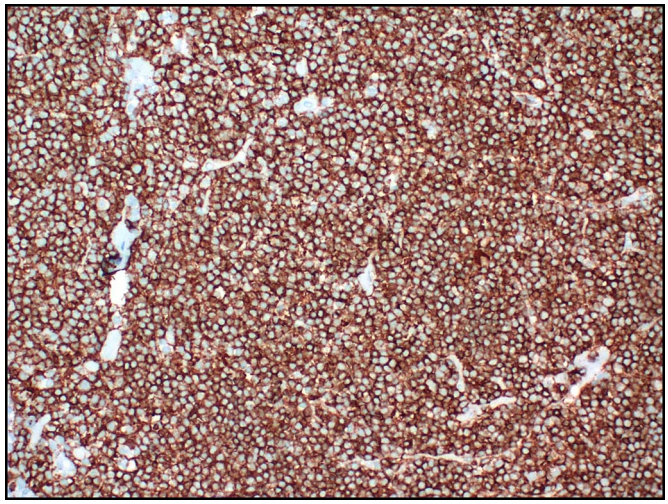

Figure 3. Immunohistochemical stain showing strong positivity with CD20, typical for a low-grade B cell lymphoma.

mucosal scar without evidence of residual or recurrent neoplasm (Figure 4). Random mucosal biopsies were negative for any evidence of lymphoproliferative disease.

DISCUSSION

Although the relationship between the etiology and treatment of *H. pylori* with MALTomas in the stomach has been well established, such a causal pathway has not been well elucidated in extragastric MALTomas despite a possible link with various microbes.[13] Colonic MALTomas are no exception. Although *H. pylori* has been identified in some patients with colorectal MALT lymphomas, it appears to occur only in a minority of cases.[5,13] In addition, there are case reports of successful treatment of colonic MALTomas with empiric antimicrobial quinolone therapy, but there has been no proven infectious link with any particular microbe.[7] Furthermore, eradication of

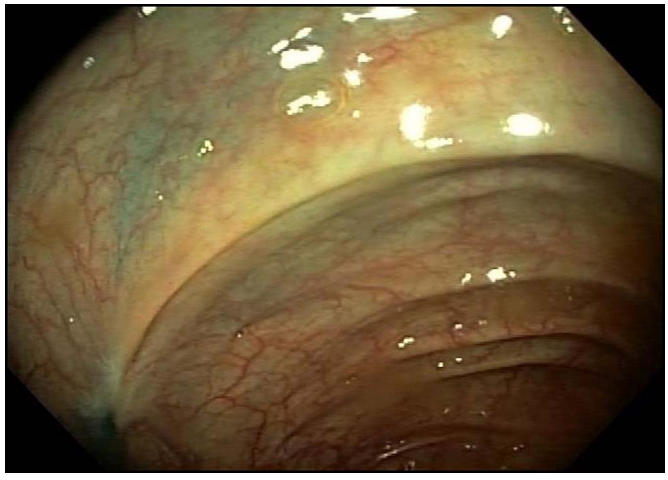

Figure 4. Follow-up colonoscopy identified by the mucosal tattoo marking and mucosal scar showing no evidence of residual or recurrent neoplasm.

H. pylori has not been shown to be reliably effective in the treatment of colorectal MALT lymphomas, and there has never been a proven link between the eradication of a particular microbe and the regression of disease.[1,6,7,11]

Unfortunately, there are insufficient data to propose a universal endoscopic or surgical management strategy for colonic MALTomas, and therefore, current strategies are largely based on the case reports. Most of the reported patients with colorectal MALT lymphoma have been managed with surgery, chemotherapy, or combination therapy.[1,3,5,8,14] Raised or polypoid lesions may rarely be endoscopically resected, as is the case with the current reported patient.[1,3,6,9] There are a few case reports of isolated rectal MALTomas managed with endoscopic mucosal dissection with no evidence of residual lymphoma after endoscopic mucosal dissection was performed.[11,15,16] Deeper lesions have usually been treated surgically.[8] Radiation therapy is often difficult because of the sensitivity of the bowel and is therefore used less in colorectal lymphomas than in extraluminal lymphomas although there are case reports of radiation therapy being used.[5,17]

Larger case series illustrate the point that endoscopic resection for colorectal lymphomas is rare.[7,8] A series consisting of 30 patients with rectal MALT lymphomas included only 5 patients managed solely with endoscopic resection, with an additional 3 patients treated endoscopically after eradication of *H. pylori*.[7] A larger institutional review of colorectal lymphoma over a 25-year period from the Mayo Clinic reported no cases treated with endoscopic resection alone.[8] Likewise, most isolated case reports of colonic MALT lymphomas were not solely managed by endoscopic resection.

There are, however, a few reports of colonic MALT lymphomas endoscopically resected without any other adjuvant therapy in the current literature.[5,7,9,10,15,18–20] One such report in 1994 included 2 patients with "low-grade" primary colonic MALT lymphomas that were resected with polypectomy without chemotherapy, with no signs of recurrent disease after 9 and 24 months.[10] In addition, Kim reported an en bloc endoscopic mucosal resection using a flex knife after submucosal injection of a glycerin solution.[18] Prognostically, outcomes generally mirror initial staging. Although 1 recently published report claimed that the overall prognosis of nongastric MALT lymphoma is poor with a 5-year survival rate of 50%, this may be based on the older literature without stratification by stage.[19] It appears that early lesions (stage I) with more indolent histology have survival outcomes similar to those of reference populations.[8] Although a long-term follow-up on cases managed endoscopically is needed, evidence to date shows overall favorable outcomes with early disease, particularly stage IE, regardless of treatment modality.

We report a similar favorable outcome after the 1-year follow-up of a patient with a localized MALT lymphoma identified as a polypoid lesion in the hepatic flexure managed solely by endoscopic resection. This limited approach in selected patients may be adequate with less associated morbidity than surgery or chemotherapy although more data including longer follow-up information would be helpful in determining the best management strategy.

DISCLOSURES

Author contributions: BL Schwartz reviewed the literature, wrote the manuscript, and is the article guarantor. RC Lowe revised the manuscript.

Acknowledgments: The authors would like to acknowledge Dr. Mitchell Schwartz who provided the clinical information and endoscopic images and obtained consent from the patient for publication and Dr. Stacey Longo who provided the pathology photomicrographs and description of pathology images.

Financial disclosure: None to report.

Informed consent was obtained for this case report.

Received March 26, 2019; Accepted August 28, 2019

REFERENCES

1. Nam MJ, Kim BC, Park SC, et al. Mucosa-associated lymphoid-tissue lymphoma of the cecum and rectum: A case report. *Ann Coloproctol.* 2017; 33(1):35–8.
2. Li B, Shi YK, He XH, et al. Primary non-hodgkin lymphomas in the small and large intestine: Clinicopathological characteristics and management of 40 patients. *Int J Hematol.* 2008;87(4):375–81.
3. Matsuo S. Mucosa-associated lymphoid tissue lymphoma of the transverse colon: A case report. *World J Gastroenterol.* 2006;12(34): 5573.
4. Abbas H, Niazi M, Makker J. Mucosa-associated lymphoid tissue (MALT) lymphoma of the colon: A case report and a literature review. *Am J Case Rep.* 2017;18:491–7.
5. Gay ND, Chen A, Okada CY. Colorectal lymphoma: A review. *Clin Colon Rectal Surg.* 2018;31(05):309–16.
6. Matthew A, Humburg BC, Bayer MG. A case of rectal MALT treated with endoscopic resection. *Am J Gastroenterol.* 2009;104(1):255–6.
7. Ahlawat S, Kanber Y, Charabaty-Pishvaian A, et al. Primary mucosa-associated lymphoid tissue (MALT) lymphoma occurring in the rectum: A case report and review of the literature. *South Med J.* 2006;99(12): 1378–84.
8. Hangge PT, Calderon E, Habermann EB, Glasgow AE, Mishra N. Primary colorectal lymphoma. *Dis Colon Rectum.* 2019;62(10):1167–76.
9. Chen PH, Lin YM, Yeb HH. Primary mucosa-associated lymphoid tissue lymphoma of the colon, image of the month. *Clin Gastroenterol Hepatol.* 2011;9(8):e74–5.
10. Schmid C, Vazquez J, Diss T, Isaacson P. Primary B-cell mucosa-associated lymphoid tissue lymphoma presenting as a solitary colorectal polyp. *Histopathology.* 1994;24(4):357–62.
11. Arimoto J, Higurashi T, Nakajima A. Complete histopathological disappearance of rectal malt lymphoma after eradication of Helicobacter pylori confirmed by ESD. *J Gastrointest Dig.* 2015;05(02). doi:10.4172/2161-069x.1000263. Accessed October 15, 2019.
12. Kiesewetter B, Ferreri AJM, Raderer M. Chemoimmunotherapy for mucosa-associated lymphoid tissue-type lymphoma: A review of the literature. *Oncologist.* 2015;20(8):915–25.
13. Farinha P, Gascoyne RD. Helicobacter pylori and MALT lymphoma. *Gastroenterology.* 2005;128(6):1579–605.
14. Matsumoto T, Shimizu M, Iida M, Amano K, Nakamura S, Fujishima M. Primary low-grade, B-cell, mucosa-associated lymphoid tissue lymphoma

of the colorectum: Clinical and colonoscopic features in six cases. *Gastrointest Endosc*. 1998;48(5):501–8.
15. Akasakaa R, Toshimi Chibaa T, Dutta AK, et al. Colonic mucosa-associated lymphoid tissue lymphoma. *Case Rep Gastroenterol*. 2012;6: 569–75.
16. Tanaka S, Ohta T, Kaji E, Kosaka T, Murakami I. EMR of mucosa-associated lymphoid tissue lymphoma of the rectum. *Gastrointest Endosc*. 2003;57(7):956–9.
17. Piotrowski R, Kramer R, Kamal A. Extranodal marginal zone B-cell (mucosa-associated lymphoid tissue) lymphoma of the colon presenting as an obstructing mass. *Clin Gastroenterol Hepatol*. 2008; 6(4):e-18–e-19.
18. Kim MH, Jung JT, Kim EJ, et al. A case of mucosa-associated lymphoid tissue lymphoma of the sigmoid colon presenting as a semipedunculated polyp. *Clin Endosc*. 2014;47(2):192.
19. Chakinala RC, Haq KF, Barsa JE, et al. Incidentally discovered extranodal marginal zone B-cell lymphoma of mucosa-associated lymphoid tissue in the colon. *Case Rep Med*. 2017;2017:1–4.
20. Hasegawa D, Yoshida N, Ishii M, et al. A case of colonic mucosa associated lymphoid tissue lymphoma observed under endoscopy with narrowband imaging. *Nihon Shokakibyo Gakkai Zasshi*. 2013;110(12):2100–6. [Japanese.]