Regression of Mucosa-Associated Lymphoid Tissue (MALT) Lymphoma of the Cecum after Eradication of Helicobacter pylori

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We report a case of 47-year-old female with mucosa-associated lymphoid tissue lymphoma of the cecum successfully treated by polypectomy and Helicobacter pylori (H. Pylori) eradication. Pathology of a 10mm cecal polyp removed during colonoscopy revealed a very dense lymphoproliferative infiltrate. Immunohistochemistry of the specimen supported a diagnosis of marginal zone lymphoma of the cecum. Histological and immunohistochemical examinations of gastric biopsy specimens taken during upper endoscopy revealed a chronic gastritis and H. pylori infection, but no gastric MALT lymphoma. The patient was treated with triple therapy consisting of lansoprazole, clarithromycin and amoxicillin, each given twice per day for two weeks for H. pylori eradication. Follow up colonoscopy performed 6 months later showed regression of the colonic MALT lymphoma. The patient has had no recurrence without any surgery, radiation or chemotherapy.

INTRODUCTION

Mucosa-associated lymphoid tissue (MALT) lymphoma is a marginal zone, peripheral B-cell lymphoma derived from marginal zone cells at extranodal and extrasplenic sites with low-grade malignancy potential. First described by Isaacson and Wright, it arises in lymphoid tissue in response to chronic antigenic stimulation, chronic infection or autoimmune disease. MALT lymphomas occur mainly in the gastrointestinal tract, in which the stomach is the most common site. 30% to 40% of MALT lymphomas occur at an extra-gastric site, such as the small intestine, colon, lung, skin, orbital soft tissue, salivary gland, breast and thyroid.

Most gastric MALT lymphomas arise in response to H. pylori infection. Several studies have confirmed the regression of gastric MALT lymphoma in a high proportion of patients treated by eradication of H. pylori. However, the role of H. pylori infection in extra-gastric MALT lymphoma is unclear. In the present report, we describe a case of cecal MALT lymphoma which responded to H. pylori eradication treatment, suggesting a possible role of H. pylori in the development of extra-gastric MALT lymphoma.

CASE REPORT

A 47 year-old Korean woman presented with a complaint of vague abdominal discomfort. She also had a positive fecal occult blood test without any further clinical signs. Her past history was significant for a partial hysterectomy (fibroids). Laboratory evaluation, including complete blood count and chemistries, were

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within normal limits. Upper endoscopy was performed in July 2010. Histological and immunohistochemical examinations of gastric biopsy specimens revealed chronic gastritis and \textit{H. pylori} infection but no gastric MALT lymphoma. The patient was treated with triple therapy consisting of lansoprazole, clarithromycin and amoxicillin, each given twice per day for two weeks. Colonoscopy performed in September 2010 revealed a 10 mm cecal polyp which was removed (Fig 1). Histology of the biopsy specimens demonstrated a dense lymphoproliferative infiltrate (Fig 2). These lymphocytes immunohistochemically showed diffusely positive staining for CD20, findings compatible with marginal zone lymphoma (MALT lymphoma) of the cecum. CT-scan of the chest, abdomen and pelvis performed several weeks later showed no evidence of lymphadenopathy. Further treatment options were discussed with the patient. A “wait and watch strategy” was chosen by the patient. Repeat colonoscopy performed 6 months later showed no evidence of residual disease. The patient has had no recurrence without any surgery, radiation or chemotherapy.

**DISCUSSION**

MALT lymphoma is a marginal zone peripheral B-cell lymphoma derived from marginal zone cells at extranodal and extrasplenic sites with low-grade malignancy potential.\textsuperscript{1} It arises in lymphoid tissue in response to chronic antigenic stimulation, chronic infection or autoimmune disease.\textsuperscript{2}

Colonic MALT lymphoma is less common than gastric MALT lymphoma, therefore the optimal management of colonic MALT lymphoma has not been described. \textit{H. pylori} eradication, surgery, chemotherapy and radiation therapy have been used in the treatment of colonic MALT lymphoma.\textsuperscript{11-23} In the present report, we describe a case of cecal MALT lymphoma which responded to the eradication therapy of \textit{H. pylori}.

\textit{H. pylori} is involved in the pathogenesis of gastric MALT lymphoma.\textsuperscript{4,5} It is found in approximately 80\% of patients with MALT lymphoma.\textsuperscript{6,24,25} Chronic immune stimulation by \textit{H. pylori} probably plays an important role in the development of gastric MALT lymphoma. \textit{H. pylori} eradication therapy is currently widely accepted as an initial therapy in patients with low-grade gastric MALT lymphoma.\textsuperscript{26,27} In contrast, the role of \textit{H. pylori} infection in colonic MALT lymphoma is unclear. Some reports have described the successful regression of colorectal MALT lymphoma after eradication of \textit{H. pylori}.\textsuperscript{11-15} There is a possibility that \textit{H. pylori} in the stomach may act as an antigenic stimulator for colonic mucosa via surface and/or vessel. \textit{H. pylori} specific T cells in stomach and their products, such as cytokines may contribute to the growth of extra-gastric MALT lymphoma. Laboratory studies have shown that the growth of neoplastic B cells of gastric MALT lymphoma can be stimulated by \textit{H. pylori} and that the effect is due

![Figure 1. Colonoscopy showing cecal polyp](image1)

![Figure 2. H and E stain showing a dense lymphoproliferative infiltrate](image2)
to recognition of \textit{H. pylori} by tumor-infiltrating T cells, which in turn provide help for tumor cell proliferation.\textsuperscript{28} In a prospective study of 77 Austrian patients by Grunberger et al, \textit{H. pylori} eradication was not effective for treatment of extra-gastric MALT lymphomas.\textsuperscript{29} They suggested that \textit{H. pylori} did not play a role in the development of these lymphomas. However, the major drawback of the study was patient selection. The majority of patients treated with \textit{H. pylori} eradication had advanced disease. Presence of advanced disease may have affected the success of eradication therapy.

Further investigation is needed to clarify the use of antibiotics in extra-gastric MALT lymphoma, as well as the role of \textit{H. pylori} in the pathogenesis of the MALT lymphoma. In our opinion, it may be reasonable to employ \textit{H. pylori} eradication therapy as a first line therapy for patients with extra-gastric MALT lymphoma, especially those with early disease.

\section*{CONCLUSION}

The role of \textit{H. pylori} in the pathogenesis of extra-gastric MALT lymphoma is unclear. Further investigation is needed to clarify its role in the pathogenesis as well as the use of antibiotics for the treatment of the MALT lymphoma.

\section*{References}