COMMENTARY
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Endoscopic Findings of Gastric Extranodal Marginal Zone B-Cell Mucosa-Associated Lymphoid Tissue Lymphoma

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See "Correlation of Endoscopic Findings of Gastric Mucosa-Associated Lymphoid Tissue Lymphoma with Recurrence after Complete Remission" by Chang Min Lee, Dong Ho Lee, Byung Kyu Ahn, et al., on page 51-57.

Approximately 360,000 new cases of non-Hodgkin's lymphoma were diagnosed worldwide in 2014. Of these, approximately 7% were diagnosed with mucosa-associated lymphoid tissue (MALT) lymphoma.[1] Gastric extranodal marginal zone B-cell MALT lymphoma accounts for 1%–7% of malignant gastric tumors and 60%–75% of gastrointestinal MALT lymphomas.[2]

Gastric MALT lymphoma shows various endoscopic findings. The structure and function of gastric MALT are similar to those of Peyer's patches in the terminal ileum.[3] Gastric MALT originates in subepithelial layers, usually in the stromal space, and grows under the normal gastric foveolar glands.[4] Thus, both mucosal and submucosal lesions can be found on endoscopic examination. Therefore, the histologic diagnosis of lymphoma is often unexpected, even to an experienced endoscopist.

Taal et al. attempted to classify the endoscopic findings in gastric MALT lymphoma into several categories.[5] Thereafter, several classification systems based on gross morphology were suggested.[6,7] However, there have been no generally accepted classification criteria, because the clinical implications of endoscopic categorization of gastric MALT lymphoma are still unclear.

Advanced stage, gene translocation t(11;18) (q21;q21), and non-responder (no change) MALT lymphomas that persist after successful *Helicobacter pylori* eradication are associated with poor prognosis.[8-10] In addition to those factors, Lee et al. in this issue of *Clinical Endoscopy*, concluded that the endoscopically defined polypoid type is associated with poor prognosis, and is characterized by a longer duration to complete response (CR), with a higher likelihood of recurrence, compared to the endoscopically defined diffuse infiltration or ulceration types.[11] However, caution is needed when interpreting the results of this study. Even though the authors stated that there was no significant colinearity between endoscopic findings, Ann Arbor stage, and/or treatment, one of the three variables could be a potential confounding factor, as the authors suggested. With reference to their data summarized in the table, polypoid lesions are more likely to be diagnosed at an advanced Ann Arbor stage, as compared to diffuse infiltration or ulceration types.

In a review of previous reports, Yokoi et al. suggested that the pathogenesis of polypoid gastric MALT lymphoma has little association with *H. pylori* infection.[7] However, the results of this study are different from those in Yokoi's report. Thus, it is still uncertain whether there is a reasonable explanation for a causal relationship between polypoid gastric MALT lymphoma and poor prognosis. We hope that a follow-up study can demonstrate a correlation between polypoid MALT lym-

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phoma and poor prognostic factors, such as nodal involvement[12] or plasmacytic differentiation.[13]

Endoscopic ultrasonography (EUS) is essential for T-staging in gastric MALT lymphoma. EUS should be emphasized in the staging work-up for gastric MALT lymphoma. Recently, the European Society for Medical Oncology guideline for gastric MALT lymphoma recommended EUS to evaluate regional lymph nodes and gastric wall infiltration (level of evidence III, grade of recommendation A).[1] Although this is a major limitation of a retrospective study, only about one-third of patients were examined by EUS.

Nevertheless, it is interesting and commendable that the authors classified gastric MALT lymphoma using morphological categorization. As endoscopic devices are being developed, the description of endoscopic morphology of gastric lymphoma is now more detailed. A recent study focused on the diagnosis of gastric lymphoma based on endoscopic morphology.[14] Moreover, Nonaka et al. suggested that narrow-band imaging magnifying endoscopy may be useful not only in the diagnosis but also in the evaluation of the response to eradication therapy.[15]

Nonetheless, there is insufficient evidence for an explanation of the distinct features of polypoid gastric MALT lymphoma. We do not know the causes of any morphological differences, but an ongoing study will resolve this question someday.

Conflicts of Interest

The author has no financial conflicts of interest.

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