Abstract: Low-grade mucosa-associated lymphoid tissue (MALT) lymphoma of the stomach has been demonstrated to be closely linked to Helicobacter pylori (H. pylori) and to be frequently remissioned after the cure of H. pylori infection. Several previous studies have focused on proliferating lymphocytes but little is known about gastric epithelial change and the duration of the remission after the cure of H. pylori infection. We performed a long-term follow-up investigation on the effects of anti-H. pylori treatment on MALT lymphoma and chronic gastritis at the histologic and molecular levels. Forty-eight patients with low-grade gastric MALT lymphoma and 28 chronic gastritis patients in whom H. pylori infection was eradicated were studied. After eradication, 43 MALT lymphoma patients showed complete histologic remission and continuous remission was observed during follow-up for up to 43 months (mean, 17.8 months). As for epithelial changes after eradication, “emptiness of lamina propria” was more pronounced in the mucosa with MALT lymphoma than that with chronic gastritis, and its severity in MALT lymphoma cases significantly decreased during the observation period whereas the glandular area increased. Cystic change of the fundic gland also occurred more frequently in MALT lymphoma cases than chronic gastritis cases. B-cell clonality before eradication analyzed by reverse transcriptase-polymerase chain reaction (RT-PCR) was detected in almost all MALT lymphoma cases (43 cases), but rare in chronic gastritis cases (6 cases). After eradication, in spite of histologic regression, 21 MALT lymphoma patients had a persistent monoclonal population during the follow-up period. B-cell monoclonality preceding the malignant transformation was noted in 4 cases. These observations indicate that 1) complete histologic remission of low-grade gastric MALT lymphomas seems stable even if a monoclonal B cell population is detectable in some cases, 2) there may be a stage of disease where monoclonal B cells are present but there is no histologic evidence of MALT lymphoma, and 3) regenerative change of the damaged glands may occur in histologic regressed MALT lymphoma cases.

Key words: low-grade MALT lymphoma, epithelial change, empty lamina propria, B-cell clonality, H. pylori, eradication, long-term follow-up

*Department of Pathology, The University of Tokushima School of Medicine, Tokushima, Japan; †Department of Oral and Maxillofacial Surgery, The University of Tokushima School of Dentistry, Tokushima, Japan; and ‡Urakami Gastro Clinic, Tokushima, Japan
Patients

Tissue specimens

Eradication and follow-up

Histologic criteria
Measurement of the degree of "empty lamina propria"

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Immunohistochemistry

Reverse transcriptase-polymerase chain reaction (RT-PCR)

Statistical analysis

Histopathology
S. Begum et al.  
**Follow-up histologic study of 48 MALT lymphomas**

<table>
<thead>
<tr>
<th>Table 1: Follow-up Histologic Study of 48 MALT Lymphomas</th>
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<td><strong>Case Number</strong></td>
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*Note: The table represents a sample of follow-up histologic study results for 48 MALT lymphomas. The histologic changes and clinical responses are indicative of the treatment efficacy.*
Immunohistochemistry

Reverse transcriptase-polymerase chain reaction (RT-PCR)
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