

Radiographic and endoscopic diagnosis of gastric malignant lymphoma, especially mucosa-associated lymphoid tissue (MALT) type lymphoma

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Introduction

According to the progress in diagnosis of gastric lesions by means of X-ray and endoscopic images, we have met several chances to diagnose gastric malignant lymphomas (gML). But, an enough information for the diagnosis of the early phase gMLs has not yet been reported. This paper reviewed our cases of gMLs and tried to discuss the diagnosis of the early phase gMLs.

Material and method

Thirty-two cases, of which the stomachs were resected under the diagnosis of primary gML, were reviewed from a viewpoint of clinicopathology.

The patients are 19 males and 13 females. Mean age of these patients was 56.4 years. The intragastric location of the primary gMLs was expressed as cardia and fundus (C), body (M) or antrum (A). The macroscopic figures of these primary gMLs were categorized in superficial, ulcerative, protruded, excavated, and giant folds types according to Sano's macroscopic classification¹. The resected gastric lesions could be reviewed histopathologically in 24 cases and were categorized according to the concept of mucosa-associated lymphoid tissue (MALT) type lymphoma of Issacson²⁻⁴. The 24 cases comprise 12 low grade MALT type, 5 high grade MALT type with low grade component, 3 high grade MALT type without low grade component, and diffuse large (B-) cell type. The other cases, informed to involve deeper than the proper muscular layer, were treated as high grade, considering the clinical information. In order to present differences in X-ray and endoscopic images between early gMLs (Group A) (12 low grade MALT type) and progressive cases (Group B) (the others), comparison in each feature of the image diagnosis was performed, including 5 cases of low grade MALT type under follow-up.

Result and discussion

Macroscopic figure and depth of invasion: Cases of Group A comprise 11 superficial type (1 m, 10 sm) and one ulcerative type (sm). Cases of Group B comprise 2 superficial type (2 sm), 1 ulcerative type (sm), 16 excavated type (deeper than mp), and 1 giant folds type (ss). When a primary gML involving up to sm is treated as an early case, the all cases of Group A were of the early case. Most cases of Group B were progressive cases.

Location of the lesion: Cases of Group A were 2 M, 5 A, one case involving two regions (A>M) and one case involving the all regions. Cases of Group B were 3 C, 4 M, 9 A, 3 cases involving 2 regions (2 M>A, 1 M>C), one case involving the all regions. Many cases of the both groups involved the A region. There were 3 cases of Group A, manifesting multiple lesions (5, 3 and 2 lesions).

Image findings: Group B cases categorized as excavated type presented figures resembling Borrmann 2 or 3 type gastric cancer. In the differential diagnosis from gastric cancer, smooth margin of depression, findings of a submucosal tumor in parts, and preservation of extensibility of the stomach in spite of the largeness of the lesion were characteristic for the excavated type. The giant folds type showed thick and linear folds and maintained well extensibility, which can differentiated the giant folds type from scirrhous type of gastric cancer. Group A cases of 12 low grade MALT type and the 5 cases under follow-up were 16 superficial and one ulcerative type. The superficial type cases could be divided in three subcategories by image diagnostic features.

1) **Flat type of granular mucosal surface** (4 cases): The lesion involved wide areas and showed obscure demarcation of the lesion. In X-ray images, patterns of various-sized granular protrusion with multiple small ulcers, ero-



Figure 1. Irregularity in pattern of areae gastricae

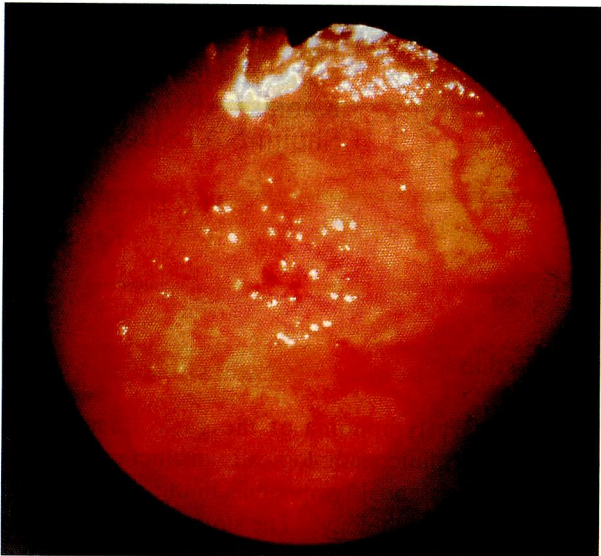
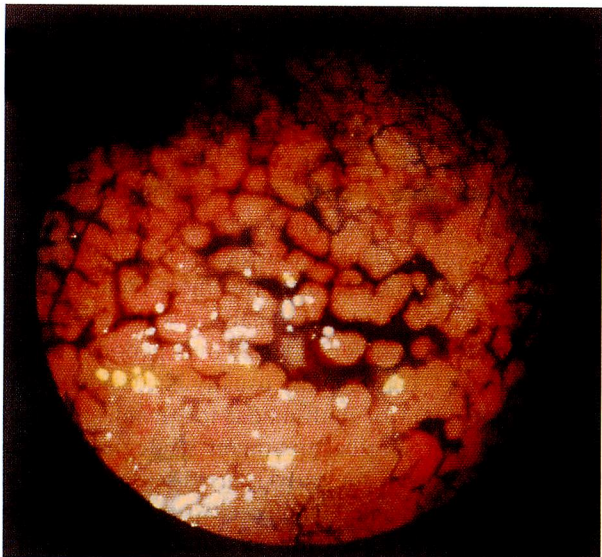


Figure 2	Figure 3
	Figure 4

Figure 2. The mucosa easy to bleed

Figure 3. Uneven mucosa with spontaneous bleeding before dye spray

Figure 4. By dye spraying method, various-sized granules with sporadically distributed sulcus-like erosions can be recognized easily.



sion, and irregular pattern of areae gastricae were recognized. Endoscopy showed diffuse granular mucosa with multiple small ulcers or erosion, and the mucosa easy to bleed. The granular mucosa could be observed clearly in cases of a small amount of air in the stomach, in the sight along longitudinal axis, and by employing dye spraying method.

2) *IIC-like depression* (12 cases): Localized lesion was seen in each stomach. In 3 cases multiple lesion could be recognized. In X-ray images, the lesion was enhanced as irregularity in or loss of pattern of areae gastricae. In some cases complication of multiple ulcers or erosion was noted in the depression. Endoscopy revealed discolored shallow depression with or without sporadic petechiae or granular protrusion of the mucosa.

3) *Flat elevation* (1 case): The flat elevation comprises fused thick folds of the mucosa. One case of ulcerative type associated IIC-like depression around the ulcer.

Conclusion

Most of early primary gML are thought to be of MALT type. In order to diagnose these early primary gMLs, careful observations of the images are necessary, based on the understanding of characteristics of the superficial type of the gMLs.

Reference

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