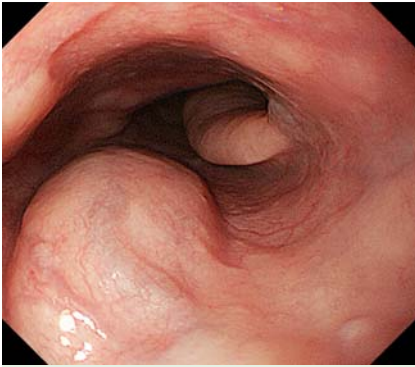


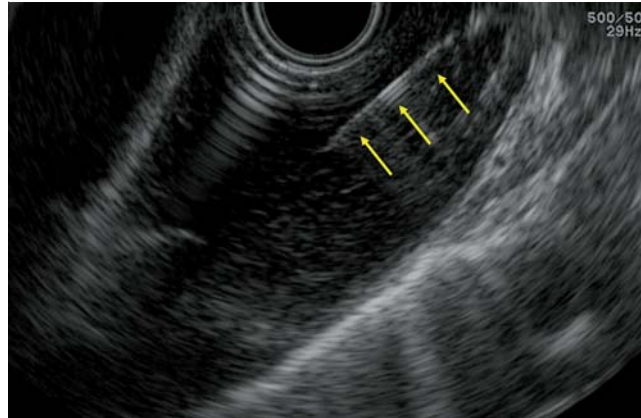
## First report of a mucosa-associated lymphoid tissue (MALT) lymphoma of the esophagus diagnosed by endoscopic ultrasound-guided fine-needle aspiration (EUS-FNA)



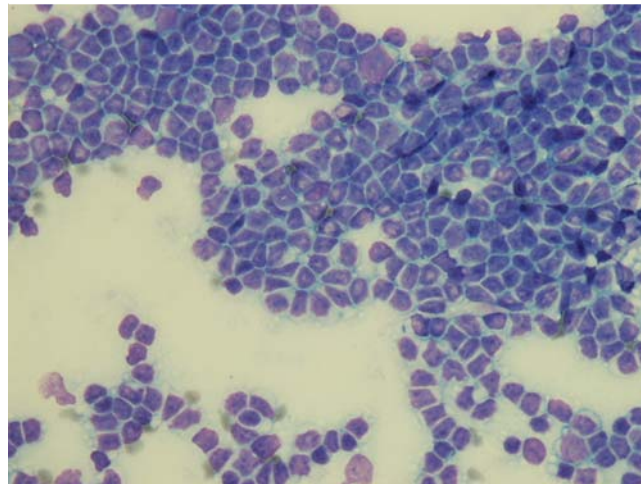
**Fig. 1** Endoscopic findings in a 60-year-old woman with dysphagia: a large, rounded mass with normal overlying mucosa is seen extending longitudinally along the entire esophagus.



**Fig. 2** Esophagogram showing a large submucosal tumor with luminal narrowing of the whole of the esophagus.



**Fig. 3** Endoscopic ultrasound showing a hypoechoic thickening in the third layer. Endoscopic ultrasound-guided fine-needle aspiration was carried out using a 22-G needle (arrows).



**Fig. 4** Small- to medium-sized lymphocytic cells with mildly irregular nuclei.

Mucosa-associated lymphoid tissue (MALT) lymphoma of the esophagus is a rare tumor [1–3] with varying presentations [4]. Only a few reports have de-

scribed MALT lymphoma of the esophagus spanning the entire circumference and length of the esophagus [3]. Many of these cases were diagnosed surgically. Endoscopic ultrasound-guided fine-needle aspiration (EUS-FNA) is an established method of obtaining submucosal tissue specimens [5]. We report here the first case of MALT lymphoma of the esophagus diagnosed by EUS-FNA.

A 60-year-old woman attended our institution due to dysphagia. Upper gastrointestinal endoscopy revealed a smooth surface with visible capillaries over the entire circumference of the esophagus and a white, soft, elastic submucosal tumor covered by normal mucosa (Fig. 1). An esophagogram showed a slightly elevated submucosal tumor extending over the

entire esophageal length (Fig. 2), and enhanced computed tomography demonstrated thickening of the left bronchial and esophageal walls along with swelling of the pharyngeal lymph nodes. Endoscopic ultrasonography revealed a tumorous lesion presenting as a primarily hypoechoic mass arising in the third layer, with a hyperechoic region.

Because a diagnosis was not reached using specimens obtained with biopsy forceps, EUS-FNA was performed (Fig. 3). The presence of small- to medium-sized lymphocytic cells with mildly irregular nuclei, along with CD5(-), CD10(-), CD19(+), CD20(+), CD22(+), and  $\lambda$  monoclonality on flow cytometry, led to a diagnosis of MALT lymphoma of the esophagus (Fig. 4). We described the tumor as a

malignant, extramarginal zone B-cell lymphoma of the MALT type, clinical stage IV (Lugano International Conference classification). The patient was treated with a total of six courses of chemotherapy with rituximab, cyclophosphamide, vincristine, doxorubicin, and prednisolone (R-CHOP), and a complete response was achieved. To the best of our knowledge, this is the first report of EUS-FNA diagnosis of MALT lymphoma of the esophagus.

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**Competing interests:** None

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### References

- 1 Lewin KL, Ranchod M, Dorfman RF et al. Lymphomas of the gastrointestinal tract: a study of 117 cases presenting with gastrointestinal disease. *Cancer* 1978; 42: 693–707
- 2 Brady LW, Asbell SO. Malignant lymphoma of the gastrointestinal tract. Erskine Memorial Lecture, 1979. *Radiology* 1980; 137: 291–298
- 3 Kishi K, Maeda H, Nakamura Y et al. Radiotherapy for mucosa-associated lymphoid tissue (MALT) lymphoma of the esophagus:

a case report with a diagnostic and therapeutic discussion. *Int J Clin Oncol* 2011; Jun 10 (Epub ahead of print)

4 Carnovale RL, Goldstein HM, Zornoza J et al. Radiologic manifestations of esophageal lymphoma. *AJR Am J Roentgenol* 1977; 128: 751–754

5 Yamao K, Sawaki A, Mizuno N et al. Endoscopic ultrasound-guided fine-needle aspiration biopsy (EUS-FNAB): Past, present, and future. *J Gastroenterol* 2005; 40: 1013–1023

### Bibliography

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