Submucosal Hematoma of Esophagus Induced by Chewing Betel Nut

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A 51-year-old man was hospitalized with a 7-hour history of palpitation, chest tightness, and persistent pain behind the sternum after chewing betel nut. The patient had a history of hypertension for 10 years and a smoking history of more than 30 years. Physical examination showed tenderness under the xiphoid process. The patient's white blood cell count was 11.85×10^9/L, with a neutrophil percentage of 81.60%. No abnormalities were found in electrocardiogram, troponin, and D-dimer. Intensive computed tomography examination of the chest and abdomen diagnosed benign space-occupying lesion of the esophageal cavity (►**Fig. 1**). Gastroscopic examination revealed that a long oval-shaped mucosal blue purple protrusion lesion could be seen in the esophageal cavity 24 to 35 cm away from the incisor, causing significant stenosis of the esophageal lumen (►**Fig. 2A** and **B**). Based on the characteristics of this case, we diagnosed the patient with an esophageal submucosal hematoma. The patient recovered well after 7 days of conservative treatment. Reexamination by gastroscopy 4 months later showed good healing of the esophageal mucosa (►**Fig. 3**).

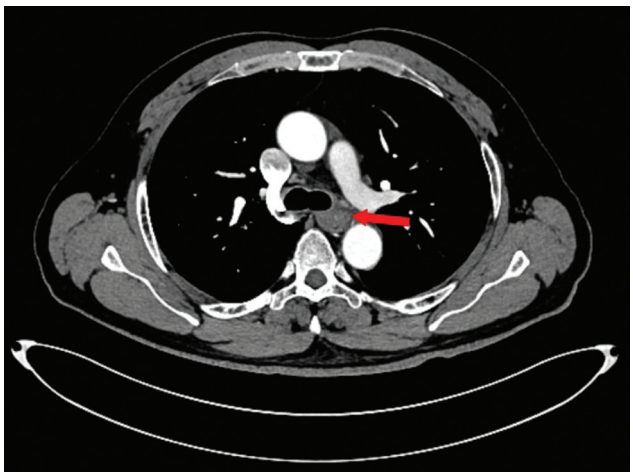

Fig. 1 Intensive computed tomography examination revealed a space-occupying lesion in the esophageal cavity (The red arrow in the figure).

Chewing betel nut can lead to malignant tumors in the oropharynx, but the esophageal submucosal hematoma caused by it has been rarely reported. Esophageal submucosal hematoma refers to esophageal submucosal bleeding caused by mucosal injury or tearing under the action of various causes such as direct injury and coagulation disorders. Arecoline can damage the esophageal mucosa, leading to fibrosis and loss of elasticity of the mucosa. At the same time, arecoline, arecoline tannin, and reactive oxygen species contained in arecoline can also play a synergistic role in causing injury to esophageal mucosa.[1] The patient in this case has a long-term history of smoking. Nicotine and other components in tobacco can cause chronic damage to the esophageal mucosa, causing the small blood vessel wall under the mucosa to become brittle and the esophageal peristalsis function to weaken. Chewing betel nut further exacerbates the damage of tobacco to the esophageal mucosa, causing the rupture of small blood vessels under the mucosa and lead to submucosal hematoma of the esophagus. The main clinical manifestations of esophageal submucosal hematoma include retrosternal pain, hematemesis, and dysphagia. In clinical practice, it should be distinguished from acute myocardial infarction, angina pectoris, aortic dissection, aortic aneurysm, peptic ulcer, variceal bleeding, and esophageal tumors. Esophageal submucosal hematoma can be cured through conservative treatment. A small number of patients with persistent bleeding can choose endoscopic hemostasis with clip closure or surgical hemostasis without contraindications.

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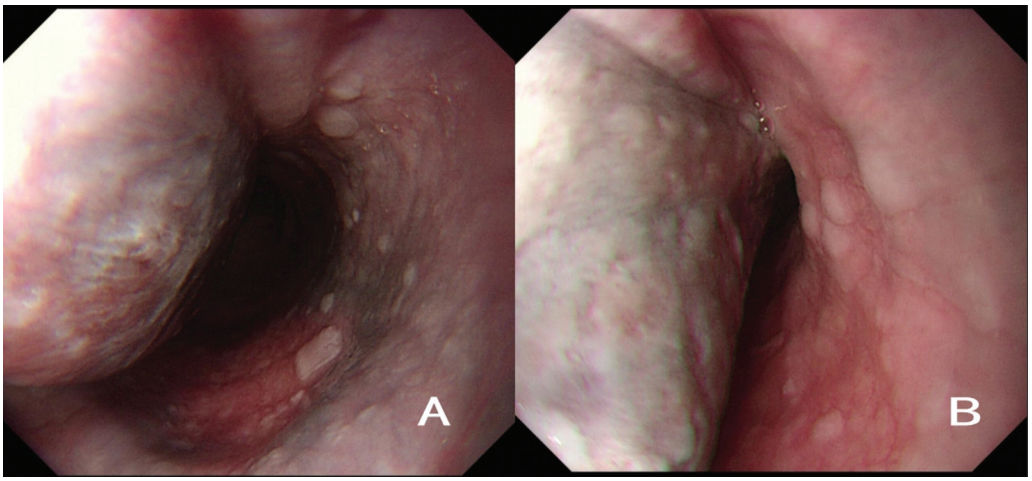

Fig. 2 (**A** and **B**) A long oval-shaped mucosal blue purple protrusion lesion could be seen in the esophageal cavity, causing significant stenosis of the esophageal lumen.

Fig. 3 Reexamination by gastroscopy 4 months later showed good healing of the esophageal mucosa.

Authors' Contributions
All authors contributed to writing of the manuscript.

Consent
Patient's written consent was obtained for the publication of the case details.

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Conflict of Interest
None declared.

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