A Case of Symptomatic Diffuse Esophageal Spasm During Multiple Rapid Swallowing Test on High-Resolution Manometry

Eun Mi Lee, MD, Moo In Park, MD*, Won Moon, MD, Kyung Mi Kim, RN, Seun Ja Park, MD and Hyung Hun Kim, MD

Department of Internal Medicine, Kosin University College of Medicine, Busan, Korea

Diffuse esophageal spasm (DES) is an uncommon motility disorder of unknown etiology in which the abnormal motility has been offered as a possible cause for the patient’s dysphagia or chest pain. Esophageal manometry is the gold standard for the diagnosis of DES and the diagnostic hallmark is identification of simultaneous contractions in at least 20% of wet swallows, alternating with normal peristalsis. Recently, a new diagnostic technique, high-resolution manometry has been reported to improve the accuracy and detail in describing esophageal function. We report a female patient with intermittent dysphagia and chest pain occurring only when swallowing a large amount of water. On HRM, this patient had esophageal spasms, increased pressurization front velocity attributable to rapid contractile wave front, associated with symptoms, which were provoked by a multiple rapid swallowing test, and thereby was diagnosed with DES.

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Key Words
Chest pain; Esophageal spasm, diffuse; Manometry

Introduction

Dysphagia and chest pain are commonly encountered problems in gastroenterology. Spasm of esophagus is often suggested as the cause of unexplained chest pain or dysphagia. Once cardiovascular disease and structural disease have been excluded, esophageal manometry should be performed to detect motility disorders as the cause of symptoms.1

Diffuse esophageal spasm (DES) is an uncommon motility disorder of unknown etiology in which has been offered as a possible cause for the patient’s dysphagia or chest pain. Manometric evaluation of the esophagus is considered to be the gold standard in patients suspected with DES.1 The most accepted diagnostic criteria for DES is the presence of simultaneous contractions in at least 20% of wet swallows, intermixed with normal peristaltic sequences.2

Recently, the development of high-resolution manometry (HRM) and topographical displays has yielded new perspectives and insights into esophageal motor functions.3-5 HRM helps to differentiate true esophageal spasm from rapid elevation of the intra-bolus pressure due to focal dysmotility or obstruction. Applying this distinction makes the diagnosis of DES very rare.4,5

We diagnosed a female patient with dysphagia and chest pain...
which were triggered by swallowing a large amount of water as DES on multiple rapid swallowing testing during HRM.

**Case Report**

A 52-year old female patient was admitted to our hospital with complaints of intermittent dysphagia and chest pain for 1 year. She had symptoms on the lower substernal area when swallowing a large amount of water, which were accompanied by chest pain. Chest pain was a sharp and non-radiating and was relieved by transports of swallowed water to the stomach. These symptoms only occurred when guzzling water and not by taking a sip of water or eating. The temperature of water did not show any correlation with her symptoms. Her past history was unremarkable. There was no family history of similar symptoms. She was of normal body weight and had no abnormalities on chest and abdominal physical examination.

Endoscopy of the upper digestive tract was performed in oth-

![Figure 1. High-resolution manometry (HRM) spatio-temporal plots and concurrent 8 channel conventional manometry line plots (from the same recording).](image-url)