Esophageal Reflux and Variant Angina Pectoris*

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EDITORIAL COMMENT

The following article by Janosi et al delivers an important clinical message. The patient is an unfortunate middle-aged man with recurrent rest chest pain who had been treated with surgical interventions to his gastrointestinal tract. The gastrointestinal surgery failed to relieve the chest pain and only later did a careful history lead to the diagnosis of variant angina. This diagnosis was complicated by the lack of ECG changes during the chest pain. Very frequently variant angina is accompanied by marked ST segment elevation and arrhythmias. Approximately half of such patients also have abnormal results of exercise tests due to fixed coronary lesions that are present in addition to coronary spasm. This case history should make us consider this diagnosis when seeing the patient with recurrent rest chest pain.

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A patient was hospitalized because of retrosternal pain that was unrelated to effort and recurred in the early morning hours. An esophageal diverticulum and a hiatal hernia were found. The patient had complaints despite medical therapy and was operated on. After operation, the patient had the same pain. A cardiologist was consulted, who suggested Prinzmetal variant angina. During arteriography, coronary artery disease was found. Revascularization was indicated and performed; after that the patient has remained free of any complaints. This observation reaffirmed Prinzmetal's original statement that: "The key to the diagnosis . . . is the taking of a painstaking history." (Chest 1991; 100:1442-43)

Diagnosing the cause of recurring chest pain is a major clinical dilemma. Chest pain may be a presenting feature of ischemic heart disease and several other conditions (peptic ulcerations, esophageal motility disorder, gallstones, cervical spondylitis, etc) as well. Cardiac and esophageal causes of chest pain are often a difficult differential diagnostic problem; both diseases may coexist, may complicate diagnostic evaluation, and may interact in producing chest pain.1,2 The variations in symptoms that give rise to diagnostic difficulty are an abnormal distribution of pain, unusual precipitation of pain, and/or differences in pain-relieving factors.3 Clinical history and examinations may not help in distinguishing patients with coronary artery disease from those with an esophageal disorder.3 Owing to these difficulties, the conditions of many of these patients are misdiagnosed and the patients are treated inappropriately.3,4 In this report, we call attention to a clinical observation in which the patient received two operations for relief of chest pain because the cause of the chest pain was misdiagnosed.

CASE REPORT

A 53-year-old white man was first seen by a cardiologist two weeks after esophageal surgery because of recurrent chest pain. The patient was a regular alcohol consumer but was in good health until 1988. In 1988, he was hospitalized in a neuropsychiatric department because of anxiety, mild hypertension, and palpitations. At that time, the examination revealed a midthoracic esophageal diverticulum and a sliding-type hiatal hernia and he was treated medically. Since February 1990, he has had squeezing retrosternal oppression radiating to the right side of the chest. The pain was unrelated to effort or a definable provoking cause. The pain recurred up to four times weekly, around the same time, in the early morning hours. The patient occasionally experienced abdominal swelling and vomitus. Recurrences of anterior chest pain prompted hospitalization in a local hospital. Findings from the physical examination were unremarkable. Blood pressure was 140/90 mm Hg and heart rate was 76 beats per minute. Chest roentgenogram, laboratory findings, and ECG were normal. Gastric acid production was measured and hypersecretion was diagnosed. Abdominal ultrasonography revealed hepatomegaly. The patient was advised to follow a diet, avoid alcohol and smoking; and was given antacids, sedatives, and histamine 2 (H2) receptor antagonists. Because of recurrences of complaints, he was referred to our University Surgical Department. Here a fiberoptic esophagogastroduodenoscopy was performed that revealed slight mucosal lesions in the esophagus in addition to the esophageal diverticulum. In May 1990, the patient underwent an operation that was carried out by a left thoracic approach. In the course of the operation, the midthoracic esophageal diverticulum was resected; a 10-cm-long esophagocardiomyotomy was done. During this procedure, a 2.5 x 1 x 1-cm size tumor was found in the esophagus wall that was excised and proved to be a leiomyoma. The last step of the operation was a Belsey Mark IV hiatal reconstruction. The postoperative period was uneventful, but the patient experienced the same chest pain that was observed before operation.

A cardiologist was consulted who suggested transfer of the patient to the cardiology department because of suspected Prinzmetal variant angina pectoris. In the cardiology department, the patient also experienced early morning chest pain. During the pain, no ECG abnormality was observed. Twenty-four hour Holter monitoring also disclosed no abnormalities; however, the patient had chest pain.

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pain. The pain was promptly relieved by sublingual nitroglycerin and the patient observed some improvement after antianginal therapy with long-acting nitrates and calcium antagonist. Coronary angiography was indicated based on these clinical observations, where significant stenoses were found in the left anterior descending, in the first diagonal branch, and in the first marginal branch of the circumflex artery. In June 1990, coronary artery revascularization was performed and the perioperative period was uneventful. The patient left the ward in good health without any medication. During the last year, the patient has been free of complaints.

**DISCUSSION**

The esophagus has an important role in causing noncardiac chest pain. A nationwide study in the United States has shown that 30 percent of the patients who had cardiac catheterization because of chest pain have normal coronary arteries. Half of these patients may have esophageal disease. Coronary artery disease and esophageal disease may coexist. Half of the patients with angiographically proved coronary artery disease have demonstrable esophageal abnormality as well. Several diagnostic tests were suggested for differential diagnosis.

Prinzmetal et al. in their original description of variant angina pectoris, stated the following: "The key to the diagnosis . . . is the taking of a painstaking history." The most important clinical characteristics of the pain were the following: cyclic nature of the pain, its occurrence at rest, the recurrence at approximately the same time each 24 hours, and the pain promptly being relieved after administration of nitroglycerin. Our case report is a further proof of the original description: the indication of the coronary angiography and bypass surgery was based on clinical grounds only, and we observed no ST elevation during the pain, which is the electrocardiographic evidence of variant angina pectoris. The six-month follow-up after coronary revascularization when the patient was free of complaints without medication supports the diagnosis of Prinzmetal variant angina. The gastrointestinal operation could have been avoided if the possibility of variant angina pectoris had been considered earlier.

We conclude that variant angina pectoris should be considered among the possible causes of resting chest pain, and all diagnostic efforts should be made before any invasive therapeutic effort.

**REFERENCES**

1. De Caestecker JS, Blackwell JN, Brown J, Heading RC. The oesophagus as a cause of recurrent chest pain: which patients should be investigated and which tests should be used? Lancet 1985; 2:1143-46