Case Report

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A Rare Cause of Syncope: Hiatal Hernia

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ABSTRACT

Syncope is a temporary loss of consciousness due to transient global cerebral hypoperfusion, characterized by rapid onset, short duration, and spontaneous and complete recovery. Syncope is divided into three groups: reflex, syncope due to orthostatic hypotension, and cardiac syncope [1]. Reflex syncope is the most common cause of syncope both in the general practitioner setting and in the emergency room. It is the most common cause of syncope in the young, whereas in older adults there is often more than one cause and the history may be unreliable [2]. Hiatal hernia is a gastrointestinal disease, the frequency of which increases with advancing age. Its main symptoms are epigastric-substernal pain, heartburn, reflux, dysphagia [3]. In some reports, chest tightness, arrhythmia, and syncope due to heart failure were mentioned in relation to the size of the hernia [4]. Although vasovagal reflex and cardiac tamponade caused by increased intratoacic pressure due to intestinal hernia are rarely seen, postprandial syncope may be seen in patients [5,6] In this article, we planned to present a case who developed postprandial syncope and was brought to the emergency room for this reason.

Case Presentation

An 84-year-old female patient had a recent complaint of chest pain, especially after meals. After the syncope that developed after the evening meal, the rescuer was brought to the emergency room by his healthcare team. Pre-hospital vitals of the patient blood pressure arterial: 120/70mmHg, pulse: 80/min, respiratory rate: 16/min, fever: 36.7 C°, oxygen saturation (SO_2): 98 were measured. When the patient with a known history of coronary artery disease, hypertension, diabetes mellitus was brought to the emergency room, he was conscious, cooperative and oriented. Electrocardiography (ECG) was observed as normal sinus rhythm. The patient was monitored in the emergency department, and his vitals were found to be stable. When the patient, whose hematological tests were normal, was placed in the supine position to take the control ECG, it was observed that the patient had sinus bradycardia and a short-term loss of consciousness. On the monitor, the patient's heart rate dropped to 20/min. When the patient was quickly put into a sitting position, it was observed that his consciousness and heart rhythm returned to normal. However, some vomiting occurred after the gag reflex in the patient. Free air was observed in the intrathoracic cardiac area in the anteroposterior chest X-ray of the patient (Figure 1). To confirm the diagnosis, cardiopulmonary Computed Tomography (CT) angiography image of the patient was taken. CT image of the patient revealed a large hiatal hernia causing compression on the left atrium (Figure 2). A nasogastric tube was inserted immediately and the contents of the patient's hernia were evacuated. The patient was relieved after gastric drainage, and it was observed that his complaints did not develop even in the supine position. The patient was admitted to the general surgery service for surgical treatment.

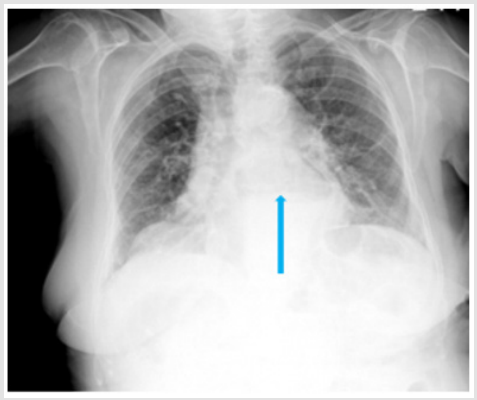

Figure 1: Intrathoracic free air in posterior-anterior chest X-ray.

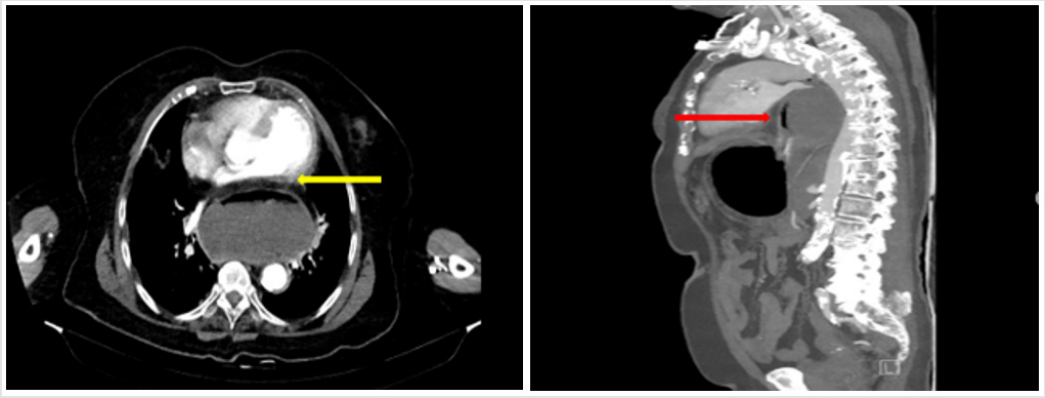

Figure 2: CT angiography Hiatal Hernia compressing the left atrium (Transverse section; Yellow arrow – Sagittal section; Red arrow).

Discussion

Vasovagal syncope is a type of reflex syncope mediated by emotional or orthostatic stress and is typically preceded by a prodrome of autonomic activation (such as sweating, pallor, and nausea). In reflex syncope, cardiovascular reflexes that control circulation become intermittently inappropriate, resulting in hypotension and/or bradycardia. Generally, according to the most involved efferent path, that is, it is classified as either sympathetic (hypotension or "vasodepressor") or parasympathetic (bradycardia or "cardioinhibitory"). It can also be classified according to the trigger as syncope of voiding, defecation, coughing or swallowing. Hiatal hernia is a common condition in advancing age, especially in women. Depending on the size of the hernia, symptoms such as epigastric pain, arrhythmia, chest pain, exertional dyspnea, and syncope occur in patients [7]. Our patient was also admitted to the emergency room with postprandial syncope. There are some cases in the literature who developed syncope due to hiatal hernia. Syncope has been reported in some of them due to tamponade due to compression on the left atrium [8]. In addition, it has been reported that syncope develops as a result of bradycardia caused by the neural mechanism of the vasovagal reflex after swallowing, and hypotension caused by peripheral vasodilation [9]. In our patient, syncope developed due to the enlargement of the postprandial hiatal hernia, increasing the intrathoracic pressure, stimulating the vasovagal reflex and the hernia compressing the left atrium.

The development of syncope in the patient who was placed in the supine position for control ECG in the emergency department supports that it occurs due to these mechanisms. The decrease in intrathoracic pressure due to the patient's vomiting in the sitting position allowed us to obtain CT imaging in the supine position as a result of the loss of the vasovagal reflex. As in our patient, pathologies such as hiatal hernia, achalasia, esophageal atresia, intestinal tamponade, and swallowing syncope should be considered in postprandial syncope developing in the supine position [10]. These patients may present to the emergency department due to epigastric pain. Pathologies such as coronary artery occlusion, aortic dissection, and pulmonary thromboembolism are primarily considered in patients who come to the emergency department with complaints of chest pain, nausea, vomiting, and syncope. However, it should be kept in mind that, unlike structural cardiopulmonary

disease, the cause of syncope may be intestinal pathologies such as hiatal hernia that activate the vasovagal reflex. These patients can be diagnosed by detecting intestinal sounds by intrathoracic auscultation in physical examination [10]. In cases where these sounds are not heard, the presence of intrathoracic free air in the anterior-posterior chest X-ray, which is a quick and simple method, will confirm that the intestinal organs are herniated into the intrathoracic area.

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