

An unusual case of chest pain

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Abstract

We report the case of a 40-year-old woman presenting during the night to the emergency department for thoracic pain and pain in the upper arm. An electrocardiogram (ECG) showed diffuse ST segment elevation. A coronarography (CVG) showed spontaneous dissection of the interventricular anterior artery. Many patients present with chest pain to emergency departments (ED). Spontaneous coronary artery dissection (SCAD) should be considered in any young patient, especially young women, without a history of coronary heart disease or risk factors, who presents with an acute myocardial infarction or cardiac arrest.

KEY WORDS: coronary artery disease; myocardial ischemia; coronary vessel; dissection; acute coronary syndrome; spontaneous coronary artery dissection.

Riassunto

Viene riportato il caso clinico di una donna di 40 anni giunta in pronto soccorso per dolore toracico e dolore agli arti superiori. Un elettrocardiogramma (ECG) evidenziava un sopraslivellamento diffuso del segmento ST. Una coronarografia diagnosticava la dissezione spontanea dell'arteria interventricolare anteriore. Molti pazienti si presentano con dolore toracico in pronto soccorso. La dissezione spontanea dell'arteria coronarica (SCAD) dovrebbe essere considerata in ogni paziente giovane, specialmente di sesso femminile, con un'anamnesi negativa per coronaropatia o fattori di rischio tradizionali che si presenta con un infarto miocardico acuto o in arresto cardiaco.

TAKE-HOME MESSAGE

Spontaneous coronary artery dissection (SCAD) should be considered in any young woman with no risk factors for coronary artery disease and acute myocardial infarction.

Competing interests - none declared.

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INTRODUCTION

Chest pain accounts for approximately six million annual visits to emergency departments (ED) in the United States, making chest pain the second most common emergency room complaint [1]. Patients present with a spectrum of signs and symptoms reflecting the many potential etiologies of chest pain. Diseases of the heart, aorta, lungs, esophagus, stomach, mediastinum, pleura, and abdominal viscera may all cause chest discomfort. We report a case of spontaneous coronary artery dissection. It is a rare cause of myocardial infarction that must be considered in young women with paucity of typical vascular risk factors.

CASE REPORT

A 40-year-old woman presented during the night at the emergency department for thoracic pain and pain in the upper arm. She reported smoking two cigarettes a day, does not take drugs of abuse, and had no history of past illness. Her vital signs were stable, with blood pressure 140/80 mmHg, regular heart rate 64 bpm, and normal oxygen saturation (100%). She was warm and not sweating. The physical examination was normal. An electrocardiogram (EKG) showed diffuse ST segment elevation (Fig. 1).

After ten minutes, the pain worsened. The patient was on monitor and we saw modification of the EKG. It showed a pronounced ST segment elevation (Fig. 2).

We activated the interventional cardiologist to perform a coronary angiography. We gave her nitro and aspirin and we did a new EKG (Fig. 3).

It showed a reduction of ST segment elevation. Routine laboratory exams and thoracic X-ray were normal. Transthoracic echocardiography showed apical dyskinesia. She had coronarography (CVG), which showed spontaneous dissection of the interventricular anterior artery.

DISCUSSION

Spontaneous coronary artery dissection (SCAD) is considered rare but the true incidence is not really known [2]. SCAD should

be considered in any young patient, especially young women, without a history of coronary heart disease or risk factors, who presents with an acute myocardial infarction or cardiac arrest [3]. The first case of SCAD was documented in 1931 on an autopsy performed on a 42-year-old female who presented with chest pain [4]. The etiology of SCAD is unclear, but certain vascular findings and morphologic abnormalities have been identified and associated with SCAD incidence and recurrence. SCAD is characterized by the development of a hematoma in the outer third of the vessel media, forcing the intimal medial layer toward the true lumen with resultant stenosis [5]. A patient with SCAD can present with heart attacks and cardiac arrest. Symptoms can include chest, arm, shoulder or epigastric pain. The heart attack severity can range from mild to severe. The test to diagnose SCAD is coronary angiography [6–11]. SCAD patients are at risk for recurrent cardiac events after their first event, necessitating long term follow up with a cardiologist. SCAD is most commonly associated with pregnancy and puerperium [12, 13]. Spontaneous coronary artery dissection (SCAD) is a rare cause of acute myocardial infarction that is more common in younger patients (under age 50) and in women [14]. SCAD should be considered in any young woman with no traditional risk factors for coronary artery disease and acute myocardial infarction [6].

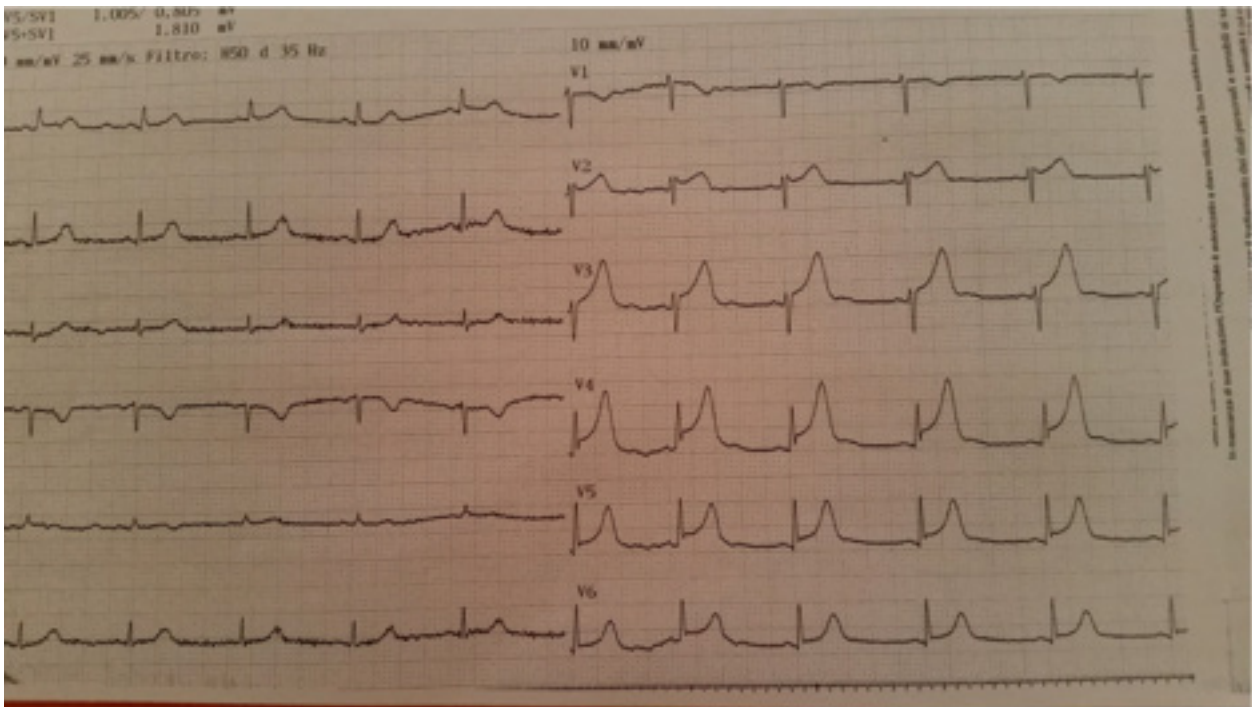


Figure 1

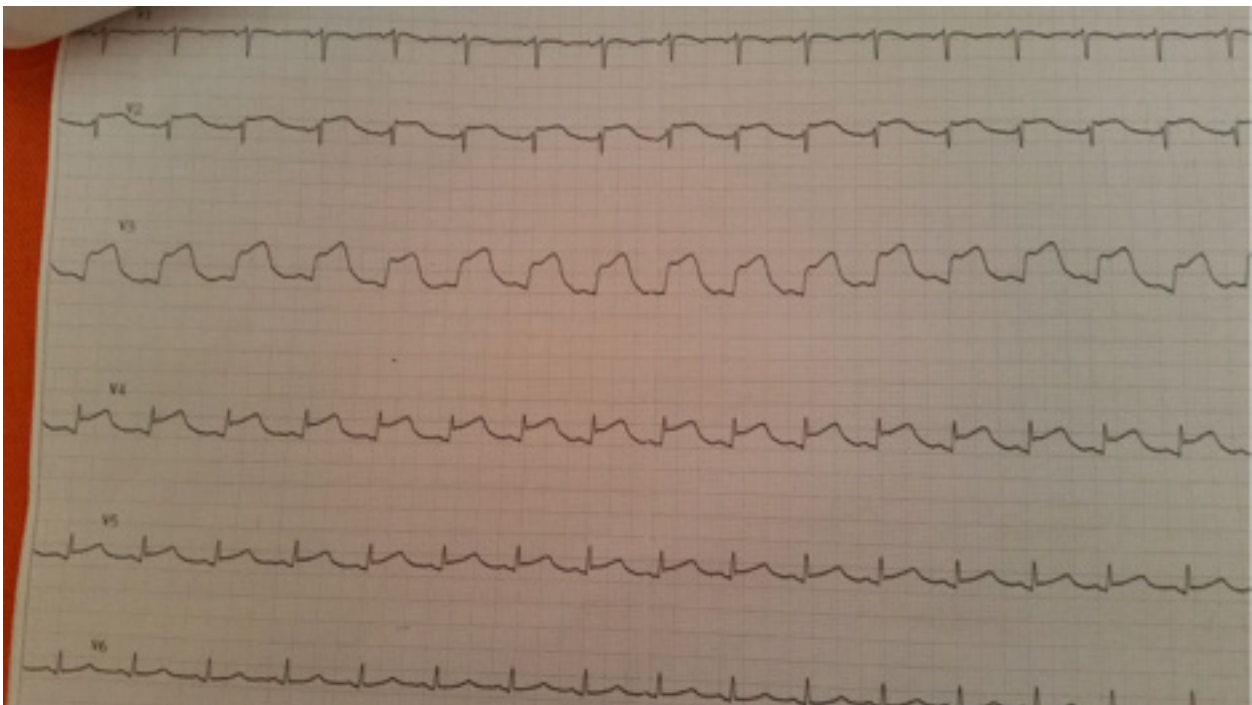


Figure 2

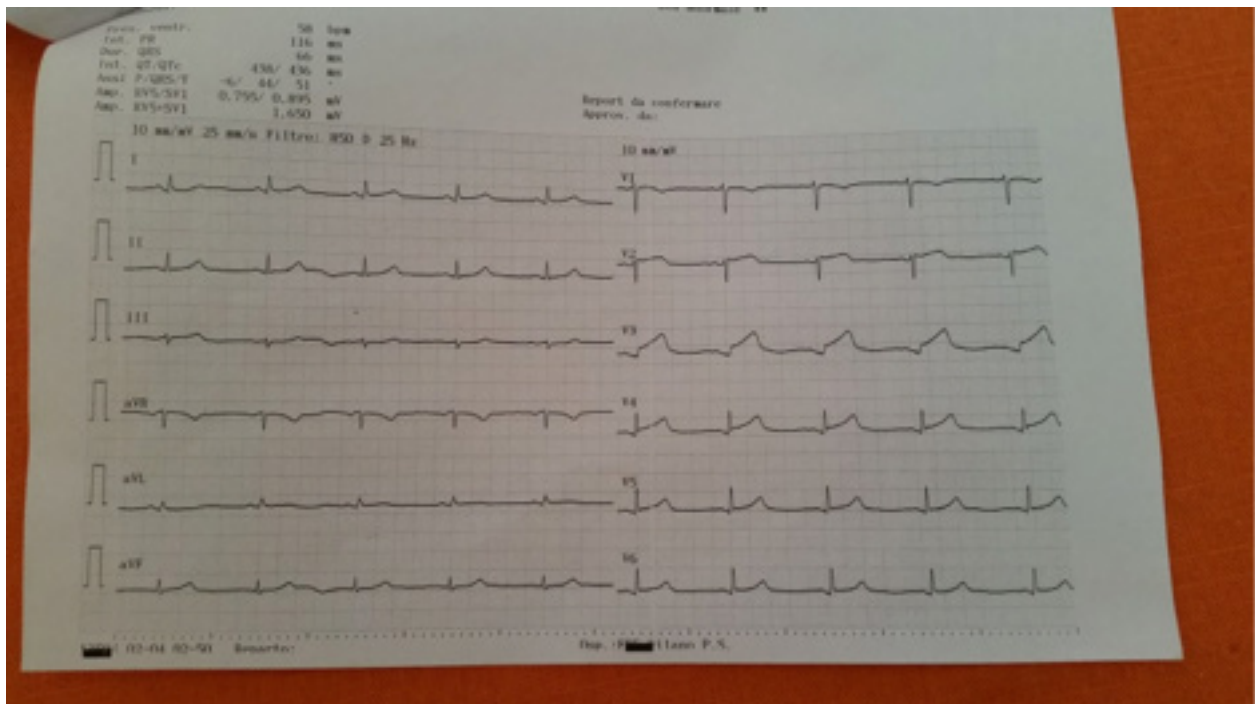


Figure 3

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