

Mehmet Vedat Çaldır, Güner Koyuncu Çelik¹, Özgür Çiftçi², İbrahim Haldun Müderrisoğlu*
Department of Cardiology, Faculty of Medicine, Başkent University; Konya, Ankara*-Turkey

¹Department of Neurology, Beyhekim State Hospital; Konya-Turkey

²Department of Cardiology, Koru Private Hospital; Ankara-Turkey

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Address for Correspondence: Dr. Mehmet Vedat Çaldır
 Başkent Üniversitesi Konya Hastanesi Kardiyoloji Bölümü
 Hocacıhan Mah. Saray cad. No: 1, Selçuklu, Konya-Türkiye
 Phone: +90 332 257 06 06/2116 E-mail: vcaldır@hotmail.com

An unusual side effect of weight loss pills in a young man; acute myocardial infarction due to cayenne pepper pills

To the Editor,

As obesity becomes widespread, alternative treatments are sought, and the improper use of cayenne pepper pills increases with easy availability of these pills. The main components of cayenne pepper pills are capsaicin and its derivatives, which cause sympathetic discharge and increase energy consumption and fat burning. Since these agents can cause vasospasm, the number of the cases with cardiotoxic effects reported in the literature has increased.

A 21-year-old male patient presented at the emergency department with compressive chest pain ongoing for 1 hour. The physical examination revealed that the patient was feeling anxious, heart rate was 110 beats/minute and blood pressure was 100/60 mm Hg. Electrocardiography indicated ST segment elevations in leads II, III, aVF, and V2-V6 derivations. Echocardiography showed hypokinetic septum, anterior, and apical walls. Following treatment with acetylsalicylic acid, clopidogrel, and enoxaparin, 100 mg tissue-plasminogen activator was administered within 90 minutes. The patient had no risk factor for coronary artery disease and no exposure to emotional or physical stress. His body mass index was measured at 30 kg/m². The patient stated that he had taken "La Jiao Shou Shen" cayenne pepper pills that he had bought via the Internet twice a day for 2 days and that he had taken the last dose 1 hour before the onset of his chest pain. The patient was transferred to our center. Coronary angiography revealed normal coronary vessels. Laboratory analysis yielded cardiac troponin I >50 ng/mL (normal range: 0-0.01 ng/mL), creatinine kinase MB >300 U/L (normal range: 0-25 U/L). The patient's chest pain subsided and did not recur, and cardiac markers decreased. Provocative tests couldn't be carried out during angiography, but it was thought that the myocardial infarction and electrocardiographic changes were probably secondary to coronary vasospasm associated with cayenne pepper pills. Oral 120 mg daily verapamil was added to his therapy. No signs of ischemia were found in the effort myocardial perfusion scintigraphy performed 1 month later. The patient has had no problems in follow-up of 1 year.

In addition to its analgesic, anticancer, anti-inflammatory, and antioxidant effects, nowadays capsaicin is increasingly used improperly for weight loss as it increases sympathetic activation and accelerates metabolism (1, 3). Capsaicinoids lead to increased heart rate, blood pressure, and dysrhythmic discharges with increased adrenaline (3). Activation of the capsaicin receptor, also known as transient receptor potential vanilloid subfamily member 1 (TRPV1), has direct cardiovascular effects (1-3). Szolcsányi et al. (4) demonstrated that endothelin-mediated capsaicin induced dose-dependent coronary vasospasm in isolated working rat hearts. Akçay et al. (5) reported coronary vasospasm cases induced by analgesic-purpose, topical capsaicin. In patients with coronary vasospasm-mediated myocardial infarction, coronary arteries are observed as normal and these patients are usually young patients without atherosclerotic risk factors. Usually, improperly used, external agents or psychological stress is the trigger. Management and treatment are similar to those of coronary atherosclerosis (2, 5). Although arterial vasospasm can be revealed with provocative tests, these tests have high risk during the course of myocardial infarction and cannot always be performed, as in our case.

The use of improper alternatives, especially herbal therapies, for weight loss is increasing. Society should be warned about this issue.

Murat Akçay, Ömer Gedikli, Serkan Yüksel
 Department of Cardiology, Faculty of Medicine, Ondokuz Mayıs
 University; Samsun-Turkey

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Address for Correspondence: Dr. Murat Akçay
 Ondokuz Mayıs Üniversitesi Tıp Fakültesi
 Kardiyoloji Anabilim Dalı, Samsun-Türkiye
 E-mail: drmuratakay@hotmail.com

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A non-conventional approach to 10-year-delayed extraction of pacemaker leads associated with recurrent infective complications

To the Editor,

As the use of cardiac implantable electronic devices has increased, new techniques and tools have been developed to increase the safety of lead extraction (1, 2). While the relapse rate due to infection is 0% to 4.2%, when a complete removal is performed, this rate increases to 50% to 100% in a partial extraction (1, 3–5).

A 73-year old male was admitted due to a pacemaker pocket infection. During the first 2 years after implantation in 2007, early and severe recurrent infection in the pocket region had required 4 surgical interventions. On the occasion of the fifth, at the patient's request, the generator was removed, but the 2 leads were left in place. Ten years later, infectious signs recurred and compelled surgical intervention, but with a questionable outcome. On admission, inspection of the right deltopectoral region revealed multiple scars and a cutaneous fistula with purulent secretions.

Chest X-rays revealed active atrial and passive ventricular lead with missing connector blocks.

In our attempt to perform the lead extraction, we succeeded in revealing the leads using fine forceps. To apply a small degree of counter pressure at the tip of the right ventricular lead, we used an 8-F/23-cm catheter. The hemostatic valve was removed and the sheath was advanced into the right subclavian vein using the lead as the guidewire. Using gentle back and forth movements, we gradually increased the counter pressure at the tip of the lead with the sheath of the catheter, and we succeeded in displacing and extracting the lead. The same technique was attempted for atrial lead removal, but we could not pass the sheath into the superior vena cava due to considerable fibrosis between the lead and the subclavian vein. The tip of the atrial lead was successfully retracted, but the location was impassable at this level. The connector block of the lead was cut, and the internal coil was displaced, but insertion of a stylet only reached the tricuspid valve. Using a non-conventional approach, we decided to extract the inner coil using a 1.8-F flexible stone extraction basket (Olympus Corp., Tokyo, Japan) from the gastroenterology department. The extraction kit was introduced using a 9-F/10-cm catheter inserted into the contralateral subclavian vein, and we succeeded in extracting the internal coil, despite continuous movement of the coil tip. When the tip of the external coil reached the confluence of the right subclavian vein and the superior vena cava, we did not have enough room to manipulate the extraction kit. This drawback was overcome by replacing the basket extraction kit with Olympus flexible rat tooth grasping forceps. The complete extraction of the atrial lead was finally achieved via the same vascular access catheter from the left subclavian vein. Clinical evolution was favorable; the patient was without any signs of recurrent infection at 6 months after discharge.

Although we did not have the latest or most precise materials, using a non-conventional approach, we succeeded in extracting both leads without any adverse outcome. These results should be interpreted with thoughtfulness.

Nicolae-Dan Tesloianu*, **Andreea-Mihaela Ignat***, **Dana Corduneanu****, **Antoni-Octavian Petris*¹**, **Ionut Tudorancea*¹**
 Division of *Cardiology, **Internal Medicine, Department of Medicine, County University Emergency Hospital "St. Spiridon", Iasi-Romania
¹Department of Cardiology, "Grigore T. Popa" University of Medicine and Pharmacy; Iasi-Romania

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