Two Locations, Two Hits; Two Faces of The Sword

Co-Existence of Coronary and Cerebral Arterial Aneurysms

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ABSTRACT

Co-existence of coronary and cerebral aneurysms is rare, though coronary and cerebral aneurysms are not infrequent. We present a case with this co-existence of coronary and cerebral aneurysms presented with ST segment elevation myocardial infarction and cerebrovascular event.

Key words: *Coronary, intracranial, cerebral, aneurysm, ectasia*

İki Farklı Lokasyon ve Tutulum: Bıçağın Çift Yüzü
Koroner ve Serebral Arteryel Anevrizmaların Birlikteliği

ÖZET

Her ne kadar ayrı ayrı gözlemlenmeleri çok nadir olmasa da, koroner ve serebral arteryel anevrizmaların birlikteliği nadir bir görülen durumdur. ST elevasyonlu miyokard infarktüsü ve serebrovasküler olay ile başvuran bir hastada tespit edilen koroner ve serebral arteryel anevrizmaların birlikteliğini sunmak istiyoruz.

Anahtar kelimeler: *Koroner, intrakraniyel, serebral, anevrizma, ektazi*

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INTRODUCTION

Coronary aneurysm (CA) is a rare angiographic lesion. Its frequency is between 3-5% in angiographic study series. CA frequently affects the trunk of main coronary arteries. It may result in stable angina pectoris, unstable angina pectoris, and myocardial infarction due to impaired coronary blood flow and thrombus formation. In this report, we present a patient who developed ST elevation myocardial infarction, possibly due to microvascular coronary artery aneurysm.

CASE

A 37-year-old man was admitted to emergency room with typical chest pain at rest lasting for 2 hours and confusion. He didn't describe any complaint before. Cigarette smoking was the only risk factor for coronary heart disease. Heart rate and arterial blood pressure were 60 beats per minute and 90/60 mmHg, consecutively. His orientation and cooperation were corrupted. His electrocardiogram showed, 2 mm ST elevation on leads II, III and AVF; 1mm ST depression on lead aVL and V2; higher R amplitude on lead V1, V2 and V3; and higher T amplitude on V3, V4 and V5. Cranial tomography –applied for identification of corrupted orientation and cooperation- showed intracranial microhemorrhagic fields. The patient was admitted to the coronary intensive care unit with the diagnosis of acute ST elevation myocardial infarction. He was treated with metaprolol and intravenous nitroglycerin until the resolution of the chest pain. We didn't apply thrombolytic therapy and primer angioplasty because of the intracranial bleeding. Cardiac troponin I, which was negative on admission, increased to 30ng/dl at the 24th hour. During the follow-up patient's complaints resolved. Coronary angiography, performed before discharge, revealed total occlusion of the posterolateral branch of right coronary artery. Other coronary arteries were found to be clear of plaques. However, local dilatations were demonstrated in the distal branches of all vessels (Figure 1). Magnetic resonance angiography revealed the dilatations of the distal part of the cerebral arteries and right anterior cerebral artery (Figure 2). The percutaneous coronary intervention recommended but the patient didn't accept. The patient was discharged at the 5 th day of the hospitalization.

DISCUSSION

Coronary ectasia is defined as a ≥1.5-fold diffuse or localized luminal dilatation of the coronary artery compared to the diameter of normal segments (1,2). CA detected in 0.3%-5.3% of consecutive angiographic studies (3,4). Etiology of CA include atherosclerosis (%50), congenital anomalies (20%–30%), syphilis, polyarteritis nodosa, Takayasu arteritis, Kawasaki disease, scleroderma, Ehlers-Danlos syndrome, trauma (percutaneous coronary intervention), bacterial and mycotic infections, nitrite and herbicide products exposure (5), and other rare causes such as adult polycystic kidney disease (6). CA may cause slow flow, thrombus formation and vasospasm, obstructive or non-obstructive ischemic heart disease and even myocardial infarction (7,8). At pathological examination of coronary arteries with CA, typical diffuse hyalinization, lipid deposition, destruction of intima and media, calcification and fibrosis, cholesterol crystals, intramural bleeding were seen (5,9).

In the literature, CA co-existent with cerebral aneurysm is very rare. CA along with bleeding foci in the brain, suggested that the vasculitis a probable etiologic cause; however, the p-ANCA, c-ANCA, rheumatoid factor, ANA, anti DNA serum levels were normal. Further, adult polycystic kidney disease was considered as a cause (6) but the ultrasonographic examination of the abdomen was normal. The patient refused further studies and was lost from follow-up.

This is a unique case of CA with acute coronary syndrome co-existent with cerebral aneurysm with hemorrhagic brain foci.

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