

A Case of Myocardial Infarction Caused by Spasm of the Right and Left Coronary Ostia and Discontinuation of Hyperthyroidism Treatment

Hipertiroid Tedavisinin Kesilmesi ile Sağ ve Sol Koroner Ostiyum Spazmının Neden Olduğu Bir Miyokard Enfarktüsü Vakası

A 50-year-old Japanese woman without any coronary risk factors or psychiatric disorders presented with a 1-month history of chest pain upon exertion. She has been having Graves' disease from 20 years of age, but her treatment was interrupted for 4 years because of euthyroidism. Coronary computed tomography with a short-acting beta-blocker showed significant coronary stenosis in the right coronary artery (RCA) and left coronary artery (LCA) ostia (Figure 1A). However, coronary angiography (CAG) showed no significant stenosis. Since thyroid-stimulating hormone was undetectable and free T3 was 9.5 ng/dL, recurrent hyperthyroidism was diagnosed, and thiamazole was initiated. Two weeks later, the patient developed chest pain at rest. An emergency second CAG demonstrated severe stenosis in the RCA and LCA ostia (Figure 1B, Videos 1 and 2). Since nitroglycerin did not resolve the stenosis, she was transferred to our hospital. Surprisingly, a third CAG showed no stenosis (Figure 1C), although optical coherence tomography demonstrated erosion in the LCA ostia (Figure 1D). Ultimately, the patient was diagnosed with a non-ST elevation myocardial infarction (NSTEMI) caused by coronary artery spasm (CAS), and nitrates and calcium channel blockers were prescribed.

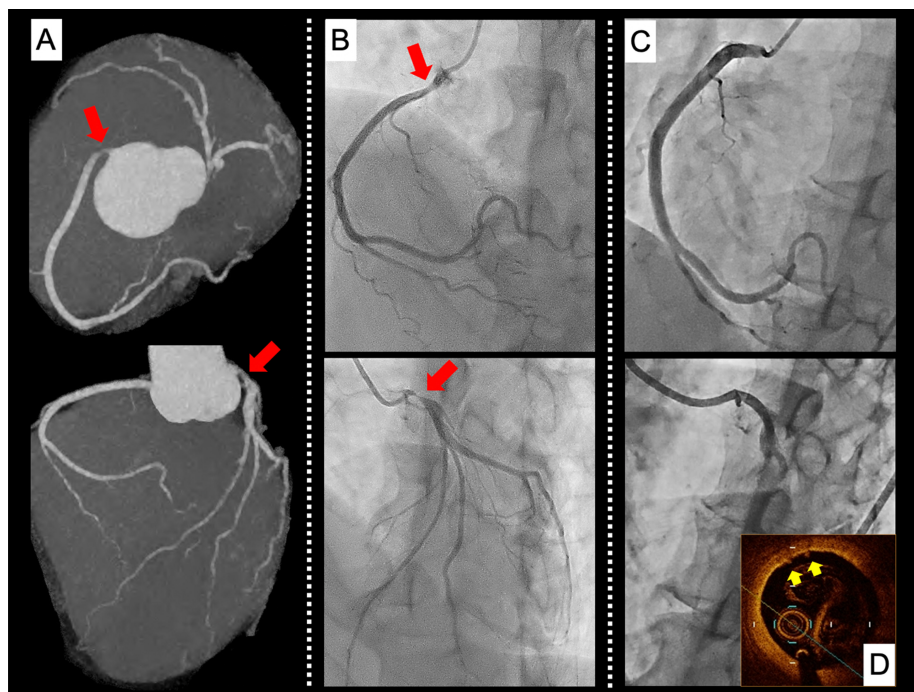


Figure 1. (A) Coronary computed tomography. (B) The second coronary angiography. (C) The third coronary angiography. (D) Optical coherence tomography images of the left coronary artery ostia. An emergency second coronary angiography.

CASE IMAGE OLGU GÖRÜNTÜSÜ



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Since free T3 remained high, thiamazole and potassium iodide pills were prescribed. Twenty-three days later, free T3 levels were 4.1 ng/dL. Subsequently, her condition was benign, without recurrence. Hyperthyroidism-associated CAS is known to affect middle-aged Asian women more frequently, is often located at the CA ostium, and resolves with hyperthyroidism correction. These facts made us consider that hyperthyroidism could be one of the factors leading to the exacerbation of the CAS at the ostium, especially since the patient was an Asian woman.

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Videos 1 and 2. An emergency second coronary angiography.