Abstract: P548

Takotsubo cardiomyopathy with significant coronary artery disease

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Topic(s):
Acute Coronary Syndromes: Tako-Tsubo Cardiomyopathy

Citation:
A 74-year-old woman with clinical background of hypertension and dyslipidemia. 2007 she was diagnosed of ischemic heart disease with severe circumflex artery stenosis and a drug eluting stent was placed. Since then, she remained asymptomatic and after a negative stress echocardiogram she was discharged from the outpatient cardiologist's office under treatment with acetyl salicylic acid and statin.

January 2018 she was admitted to the Emergency department with typical substernal chest pain. Electrocardiogram showed 1 mm ST-segment elevation in V5-V6, DII, DI and aVL leads. Her vital signs were stable. Laboratory workup showed elevated Troponin level at 115 ng/L (normal <14). A bedside echocardiography revealed severe left ventricular (LV) dysfunction with akinesis of the mid and apical portions and hyperkinesis of the basel wall consistent with Takotsubo cardiomyopathy. She underwent cardiac catheterization and severe left anterior descending coronary artery stenosis, severe proximal right artery stenosis and severe restenosis of the stent of de circumflex was observed. A cardiac magnetic resonance showed wall oedema in apical portions of the LV and lack of late gadolinium enhancement. Subsequent echocardiography revealed that LV function had returned completely to normal.

Three weeks later she underwent 3-vessel coronary artery bypass grafting that included a saphenous vein graft to the right coronary artery, left internal mammary artery to the left anterior descending coronary artery and right mammary artery to the obtuse marginal artery, with good results.

Takotsubo cardiomyopathy is an acute reversible syndrome that mimics a myocardial infarction. It is typically characterized by transient systolic dysfunction of the apical and mid-segments of the LV in the absence of epicardial coronary obstruction or evidence of plaque rupture. Patients often present with chest pain, ST-segment deviation and elevated cardiac enzyme levels. While a physical or emotional trigger is often identified, no specific triggers have been reported in 25 percent of cases. The prognosis is excellent, and recurrence occurs in <10% of patients.

Acute coronary syndrome is the primary differential diagnosis, but in the International Takotsubo Registry there was significant coexistence of coronary disease occurring in approximately 15% of patients. In this sense, the lack of plaque rupture can be confirmed by intracoronary optical coherence tomography. Cardiac magnetic resonance may also be useful to exclude myocardial infarction and to confirm recovery of ventricular function on follow-up.

To the best of our knowledge, the finding of incidental coronary artery disease may be a coincidence in patients who have Takotsubo cardiomyopathy and the diagnosis of Takotsubo should not be ruled out completely. We always recommend the evaluation of possible coronary artery disease in high-risk patients, despite a high suspicion of Takotsubo cardiomyopathy.
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