

Takotsubo syndrome and acute myocardial infarction: a case of coexistence

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Introduction: Takotsubo syndrome (TTS) was first described in Japan in 1991 as a syndrome affecting predominantly postmenopausal women after emotional stress¹. TTS includes chest pain, ECG changes and wall motion abnormalities as well as elevation of the cardioselective enzymes, which also corresponds to acute myocardial infarction (AMI). Although the etiology of TTS has not yet been clarified, catecholamine-mediated cardiotoxicity provoked by emotional or physical stress is considered one of the most likely causes².

Case report: 65-year-old female was examined in the Emergency Department because of chest pain lasting several hours, which was provoked by a stressful event. The patient stated that she performed cardiopulmonary resuscitation a day earlier on her husband, who suffered a heart attack. In the electrocardiogram on admission, inferolateral ST-segment depression with elevation in AVR was recorded. Echocardiography showed hypokinesia of the middle and apical segment of the inferoposterior wall and ejection fraction of the left ventricle was 55%. An emergency coronary angiography was performed, which showed the occlusion of the circumflex artery (LCx) in the proximal segment. She underwent percutaneous coronary intervention (PCI) with successful stent placement in the LCx. Due to the "slow flow" phenomenon, eptifibatid was administered. During the procedure, the patient developed pulmonary edema and was intubated and mechanically ventilated. Control echo showed decrease in ejection fraction to 30% as well as anteroseptal hypokinesia, which was not corresponding to the myocardium perfused by the culprit coronary artery. Because of the deterioration of the patient's neurological condition, a brain CT scan was performed, which revealed brain edema with a compressive effect and cerebral herniation. Despite all treatment procedures, the patient progressed to septic shock with multi-organ failure and ultimately fatal outcome.

Conclusion: Distinguishing TTS from AMI can be challenging because both conditions share similar clinical presentation. A common triggering event might be responsible for the coincidence of TTS and AMI. Previous case series have reported that postischemic myocardial stunning has features typical of TTS and suggested that AMI may consequently trigger TTS³.

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LITERATURE

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