Cardiogenic shock from acute ST-segment elevation myocardial infarction induced by severe multivessel coronary vasospasm

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A 43-year-old woman was brought to the emergency room after acute onset chest pain and dizziness developed while at rest. She developed excruciating chest pain followed by drop of systolic blood pressure to 67 mmHg. Cardiothoracic examination revealed bilateral diffuse moist rales. An 18-lead electrocardiogram showed ST-segment elevation in leads II, III, aVF, and V3R through V5. R. Initial assessment of the patient suggested the possibility of cardiogenic shock from right ventricular infarction complicating acute inferior myocardial infarction. Because of the profound haemodynamic instability, the patient was immediately transferred for cardiac catheterization. Urgent coronary angiography revealed diffuse and extensive stenoses of the left anterior descending artery and the left circumflex artery (Panels A and B, Supplementary material online, Videos S1 and S2), as well as severe and diffuse stenosis of the right coronary artery (Panel C, Supplementary material online, Video S3). An intra-aortic balloon pump was used to provide haemodynamic support.

After a 12-day hospital stay, repeat coronary angiography surprisingly revealed complete resolution of all stenoses (Panels D, E, and F, Supplementary material online, Videos S4, S5, and S6). After excluding pheochromocytoma, the patient was discharged home 4 days later on a regimen of nimodipine 30 mg three times daily, diltiazem 30 mg four times daily, and perindopril 2 mg once daily. A 4-month follow-up survey indicated that the patient had fully recovered. This case highlights the importance of identifying possible vasospasm for a variety of clinical manifestations of acute coronary syndrome. The patient was originally diagnosed and treated for acute ST-segment elevation myocardial infarction based on clinical presentations and angiographic finding of severe coronary stenosis. Thus, excluding the possibility of vasospasm is mandatory for every angiographic coronary lesion regardless of the severity of stenosis, even if spasm is not clinically suspected.

Supplementary material is available at European Heart Journal online.