IMAGES IN CARDIOLOGY

Intramyocardial dissecting hematoma; The importance of contrast echocardiography in the final diagnosis and treatment

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Intramyocardial dissecting hematoma (IDH) is a very rare complication of the subacute phase of acute myocardial infarction[1]. IDH consists essentially of a blood filled cavity, the outer wall of which is composed of myocardium and pericardium and the inner wall, facing the ventricular cavity, is composed of myocardium and endocardium[2]. Formation of an IDH can result from decreased tensile strength of the infarcted area, rupture of intramyocardial vessels into the interstitial space, and acute increase of coronary capillary perfusion pressure[3]. Until recently, it was believed that the prognosis of IDH was fatal in the short- to mid-term in those patients who were not operated. However, there are published reports showing good outcomes with conservative treatment, especially in patients with clinical and hemodynamic stability[2].

Herein, we describe the case of a 79-year-old woman with subacute anterior myocardial infarction complicated by IDH, low cardiac output and acute renal failure. She presented to our cardiology department 48 hours after the initial onset of dyspnoea and chest pain. 2D-transthoracic echocardiography at admission revealed akinesis of the apex and mid segments of the anterior and septal walls. Atthe apical region, a pulsatile cavity withsystolic expansion surrounded by a thin, highly mobile endomyocardial flap was visualized (Figure 1a). Color Doppler could not demonstrate flow through this cavity. Contrast echocardiography (CE) during left ventricular opacification confirmed the 2D and color Doppler findings (Figure 1b).

The lack of communication between the cavity and the left ventricle was confirmed and the outer boundaries and the free movement of the flap were outlined more clearly. In delayed CE views, there was myocardial contrast enhancement (MCE) of the subendocardial layer of the flap (viable zone with decreased/delayed myocardial perfusion), while there was a thin endocardial layerwithout MCE depicting necrosis (thin and thick white arrows, respectively, Figure 1c).

Conservative treatment was selected for our patient due to her multiple serious co-morbidities, but unfortunately, she passed away on the 5th day of her hospitalization. Postmortem examination confirmed the presence IDH and death was attributed to myocardial rupture.

Contrast echocardiography is the ideal test for the diagnostic and therapeutic approach of IDH, as it detects both the presence of endomyocardial flap and the viable zone in the myocardium surrounding the hematoma.

References

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