

CARDIOVASCULAR FLASHLIGHT

doi:10.1093/eurheartj/ehy110

Mechanical circulatory support as bridge to urgent structural intervention

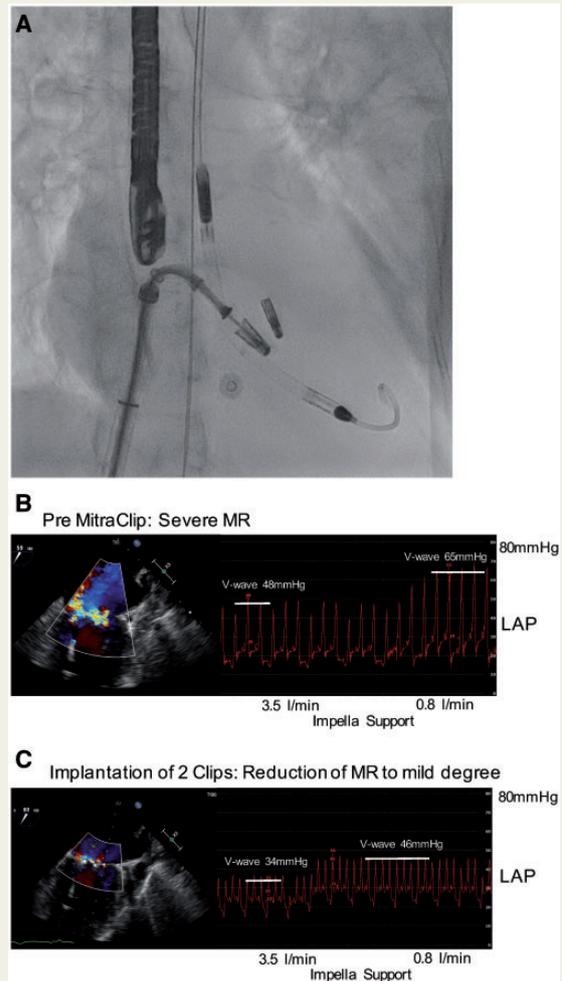
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A 79-year-old woman was admitted in the emergency department as late comer in cardiogenic shock due to subacute non-ST-elevation myocardial infarction, which clinically occurred 8 days prior. Coronary angiography depicted occlusion of a small circumflex artery. Revascularization was deemed unreasonable in the light of normal CK and elevated LDH/troponin serum levels. The patient was haemodynamically compromised with elevated lactate and imminent renal and liver failure. Acute Physiology and Chronic Health Evaluation (APACHE II) Score was 25 points corresponding to an in-hospital mortality of 51%. Percutaneous mechanical circulatory support (Impella CP) was implanted and haemodynamics stabilized over 48 h along with recovery of renal as well as liver function. However, cardiac functional recovery was hampered by severe mitral regurgitation (MR) with concomitant prolapse of the posterior leaflet. Our Heart Team decision was to perform percutaneous mitral valve repair with the MitraClip system under Impella support (Panel A). Prior to MitraClip, left atrial pressure (LAP) was elevated indicating severe MR. As the performance level of the Impella was decreased, systemic arterial pressure decreased, and LAP even further increased (Panel B). Implantation of two clips reduced MR to a mild degree, and the dependence of LAP on systemic arterial pressure and Impella support was attenuated (Panel C). The Impella was weaned and explanted the same day. The patient was discharged at New York Heart Association (NYHA) II 7 days after admission.

This case is the first report of a critically ill patient bridged by mechanical circulatory support to urgent percutaneous mitral repair.



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