

Takotsubo syndrome following MitraClip procedure

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An 87-year-old man underwent a successful MitraClip (Abbott Vascular, Santa Clara, CA, USA) procedure for severe mitral regurgitation (MR) due to P3 prolapse with general anaesthesia and transoesophageal echocardiography guidance. The next morning, he complained of chest pain. Transthoracic echocardiography (TTE) demonstrated new severe apical akinesis without worsening of the MR (Figure 1). Angiography revealed akinesis of the apex of the left ventricle with no coronary artery obstruction (Video 1), consistent with the diagnosis of takotsubo syndrome. The subsequent clinical course was uneventful, without elevation of cardiac enzymes (maximum creatine kinase 112 U/L). On postoperative day 6, TTE demonstrated normalization of the left ventricular apical wall motion, and the patient was discharged home.

The onset of takotsubo cardiomyopathy is often preceded by emotional or physical stress including open-heart surgery.¹ Although the supporting evidence is limited, catecholamine-mediated multivesel epicardial spasm, microvascular coronary spasm, or possible

direct catecholamine-mediated myocyte injury has been reported as possible pathophysiological mechanisms.² MitraClip procedure is less invasive than open-heart surgery.³ However, this case demonstrates that it can nonetheless precipitate the onset of stress-induced takotsubo syndrome. Furthermore, a recent study has revealed that, in addition to emotional factors, takotsubo syndrome can also be triggered by physical factors, which was related to worse short- and long-term prognosis.⁴ Therefore, we should be aware of takotsubo syndrome as a potential complication of MitraClip procedure.

Consent: The author/s confirm that written consent for submission and publication of this case report including image(s) and

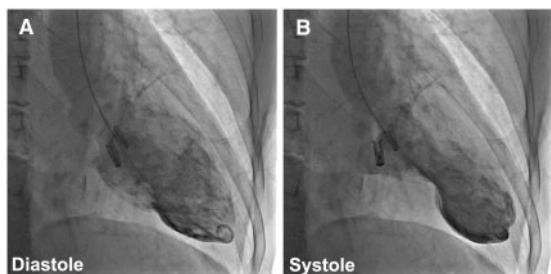


Figure 1 Left ventricular angiography. The figure shows left ventricular angiography in diastole (A) and systole (B). It reveals akinesis of the apex of the left ventricle with concomitant basal hyperkinesis.



Video 1 Left ventricular angiography. Left ventricular angiography reveals akinesis of the apex of the left ventricle with concomitant basal hyperkinesis.

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