In conclusion, further randomized trials will be needed to conclusively assess whether routine assessment of myocardial viability before revascularization can: (a) identify those patients who might benefit most from revascularization; (b) choose the most appropriate revascularization approach; (c) avoid unnecessary procedures and risk in those patients with minimal or absent viability.

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The list of references is available in the online version of this paper.

CARDIOVASCULAR FLASHLIGHT

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Contained aortic root rupture after transcatheter aortic valve implantation

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A 94-year-old man was admitted for severe symptomatic aortic stenosis. His main co-morbidity was a rheumatoid polyarthritis requiring corticoid treatment.

Physical examination showed pure aortic stenosis with no cardiac failure. Transthoracic echocardiography showed a depressed left ventricular ejection fraction of 45%, aortic valve area of 0.7 cm², mean gradient at 53 mmHg, and systolic pulmonary artery pressure at 60 mmHg. The mortality risk (Logistic EuroSCORE) was 34% and multidisciplinary evaluation confirmed that the risk of conventional surgery was prohibitive. Transcatheter aortic valve implantation (TAVI) was considered, and screening showed normal coronary angiogram, an aortic annulus diameter of 21 mm, non-calcified femoroiliac arteries with a diameter of >7 mm. Thus, TAVI was performed, under general anaesthesia and transoesophageal echocardiography (TEE) guidance, via a transfemoral approach, using a 23 mm Edwards Sapien XT prosthesis.

The procedure was uneventful. However, immediate post-implantation TEE check showed a thickening of the posterior aortic wall, suggestive of an aortic root haematoma (Panel A, arrow), whereas angiogram remained unremarkable (Panel B). A medical management was decided upon in this inoperable patient. The day after, computed tomography (CT) confirmed the diagnosis of contained aortic root rupture (Panels C and D), while it was hardly detectable on further TTE examinations (Panel E, arrow). The in-hospital course was clinically uncomplicated, and the patient was discharged at Day 7. Sudden death occurred at Day 22 (no autopsy).

After TAVI, CT should be largely performed to detect such a potentially fatal complication, which may be clinically silent and undetectable by conventional angiography and TTE examinations.