Transfemoral aortic valve implantation in a patient presenting with critical aortic stenosis and previously treated by endovascular aortic aneurysm repair

Transcatheter aortic valve implantation (TAVI) has become an alternative to medical therapy in non-operable patients and appears comparable to surgery in high-risk patients. We report a case of transfemoral TAVI in a patient with critical aortic stenosis (AS) previously treated by endovascular aortic aneurysm repair (EVAR). An 89-year-old man was admitted for cardiogenic shock. This patient had a coronary artery bypass graft surgery in 1992 and EVAR for abdominal aortic aneurysm in 2011 (figure 1A,B). Echocardiography revealed a severe AS (mean aortic gradient: 40 mm Hg, aortic valve area: 0.4 cm^2) and impaired left ventricular ejection fraction (20%). Balloon aortic valvuloplasty was immediately performed with favourable outcome. This high-risk patient (Logistic EuroSCORE: 63.9%) was declined for surgical aortic valve replacement. Coronary angiogram was thereafter performed showing a severe stenosis of a saphenous vein grafted on the left anterior descending artery (LAD) treated by drug eluting stents (DES). CT angiography was then performed to assess the feasibility of transfemoral approach. Minimal diameter of native and stented iliofemoral arteries was >6.0 mm with moderate tortuosity (figure 1B–D). TAVI was performed via the right femoral artery. An 18F sheath was carefully advanced through the stented arterial segments and positioned in the aorta (figure 2A, online movie clip 1). A 23-mm Edwards SAPIEN XT prosthesis was delivered after valve predilation without paravalvular aortic regurgitation (figure 2B,C). The patient was discharged without any complication 5 days later. To our knowledge, this is the first report of transfemoral TAVI in a very high-risk patient presenting with critical AS and previously treated by EVAR.

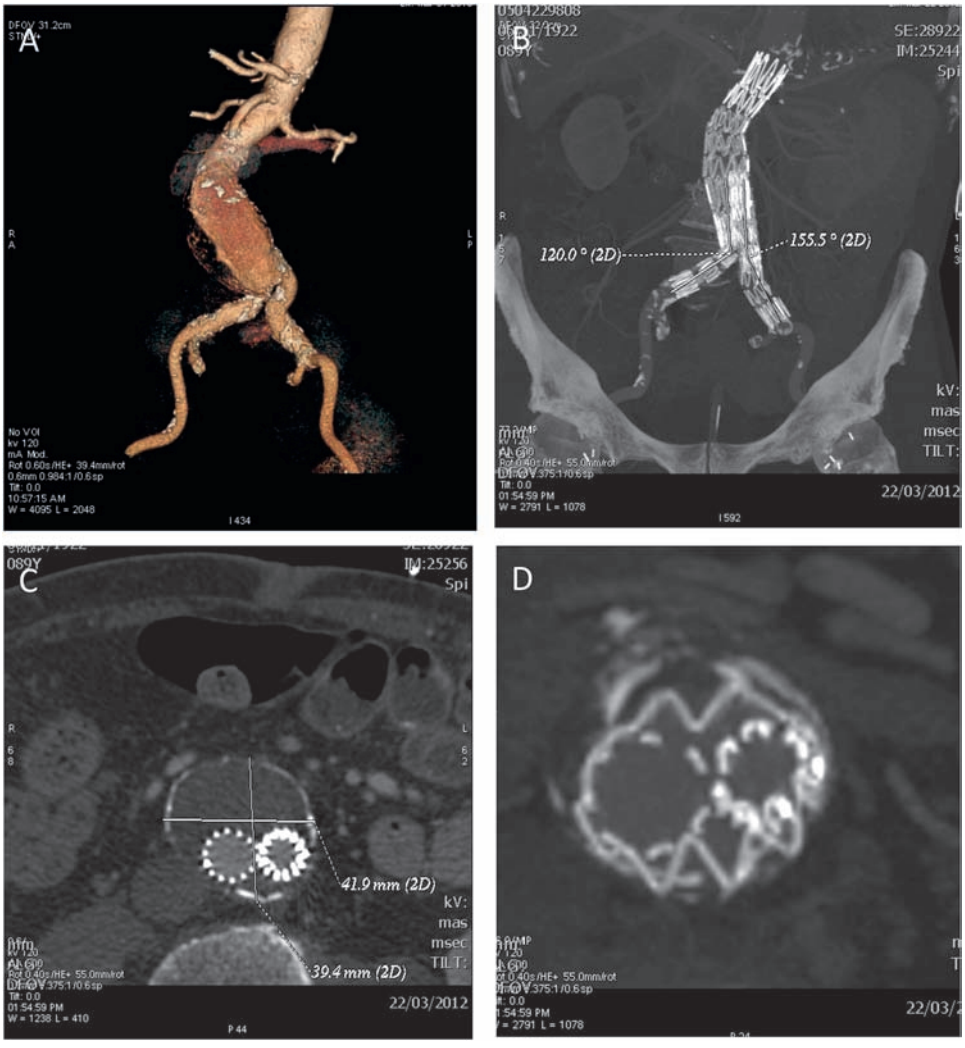

Figure 1 Computed tomography (A) 3D reconstruction of abdominal aortic aneurysm; (B) Endovascular aortic aneurysm repair; (C–D) feasibility assessment of transfemoral approach for TAVI.

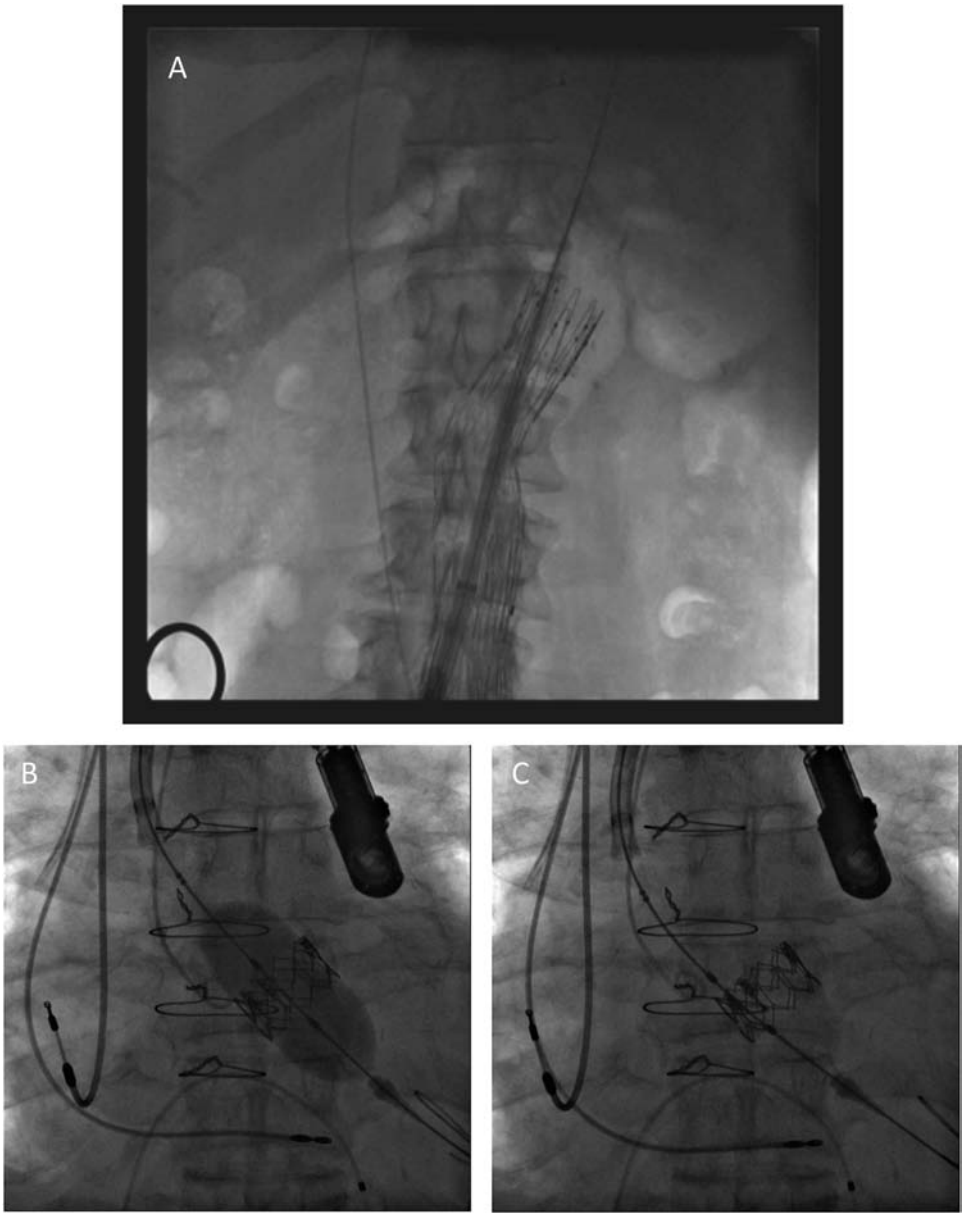

Figure 2 Valve delivery (A) 18-F sheath advanced through the stented segment and positioned in the aorta; (B—C) Balloon-expandable Sapien XT valve delivery during (B) and after (C) inflation.

Eric Durand,[1] Pierre Julia,[2] Didier Blanchard[1]

[1]Cardiology department, University Paris-Descartes, AP-HP, European Georges Pompidou Hospital, Paris, France; [2]Cardiovascular surgery department, University Paris-Descartes, AP-HP, European Georges Pompidou Hospital, Paris, France

Correspondence to Dr Eric Durand, European Georges Pompidou Hospital, Cardiology department, 20 rue Leblanc, Cedex 15, 75908 Paris, France; eric.durand@egp.aphp.fr

► An additional video is published online only. To view this file please visit the journal online (http://dx.doi.org/10.1136/heartjnl-2012-302404).

Contributors All authors have read and approved the manuscript.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; internally peer reviewed.

Published Online First 3 July 2012

Heart 2012;**98**:1611–1612. doi:10.1136/heartjnl-2012-302404