

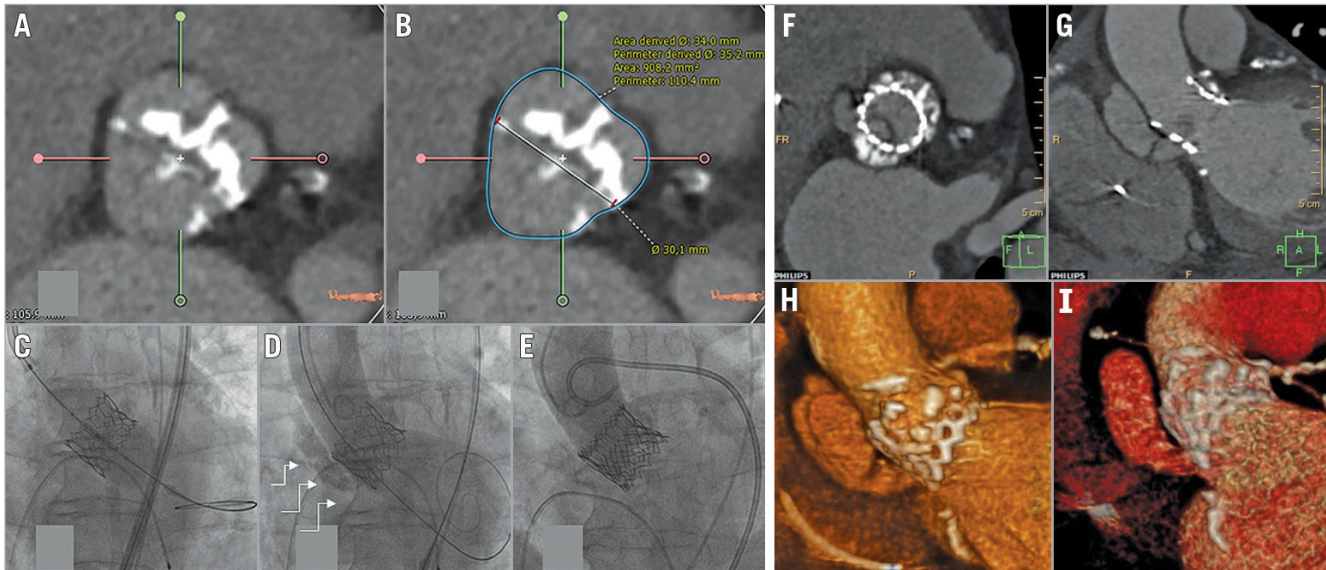
# Annulus rupture post transcatheter aortic valve implantation complicated by a giant pseudoaneurysm



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An 82-year-old man with symptomatic aortic stenosis was referred to our institution for transcatheter aortic valve implantation (TAVI), based on his comorbidities (STS score 6.63%). Multislice computed tomography (MSCT) identified a type 1 L/R bicuspid aortic valve. As the annular area-derived mean diameter was 29.1 mm and the intercommissural distance 30.1 mm, a 29 mm Edwards SAPIEN 3 (S3) prosthesis (Edwards Lifesciences, Irvine, CA, USA) was implanted via the transfemoral approach (**Panel A-Panel C, Moving image 1**). Post valve deployment, an annular rupture was identified by angiography, in the posterior zone of the aortic valve (**Panel D, Moving image 2**). As a bail-out strategy, pericardial drainage was carried out, quickly combined with the implantation of a second 29 mm S3 before protamine infusion. Haemodynamic recovery was thus obtained, without any obvious residual leak, either on angiography or on transthoracic echocardiography (**Panel E, Moving image 3**). The in-hospital course was uneventful, except for a complete atrioventricular block requiring a permanent pacemaker on day four. A control MSCT was performed on day 10, which identified good prostheses position with a large pseudoaneurysm of the aortic root located on the right side and extending on 46 mm alongside the

aorta (**Panel F-Panel H**). The optimal management of stable aortic pseudoaneurysm formation in patients considered too frail for surgery is limited to case reports, and should therefore be discussed in a multidisciplinary setting.

The present patient remained haemodynamically stable after initial management and was asymptomatic during the in-hospital course. Considering frailty and surgical risk, a conservative approach was adopted with follow-up by MSCT.

At one-month follow-up, the patient was in NYHA Class I, no events were reported and MSCT confirmed the stability of the pseudoaneurysm (**Panel I**).

We report here for the first time the constitution of a giant and stable aortic pseudoaneurysm, post TAVI-related annular rupture.

## Conflict of interest statement

The authors have no conflicts of interest to declare.

## Supplementary data

**Moving image 1.** First Edwards SAPIEN 3 prosthesis implantation.

**Moving image 2.** Angiography of the annular rupture.

**Moving image 3.** Final result.

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