75-year-old man with a history of aortic valve repair and Dacron graft (28 mm) replacement of the ascending aorta 8 years earlier (David procedure) sought treatment for recurrent severe aortic regurgitation (A). The Society of Thoracic Surgeons score was 14, and the patient was formally denied surgical valve replacement. After informed consent, a 29-mm Medtronic-CoreValve (Medtronic, Irvine, California) was implanted percutaneously from the right femoral artery (B to D). However, the valve was deployed too low and could not be repositioned because of wall friction in the ascending graft. Severe paravalvular regurgitation persisted after final deployment and could not be decreased by balloon dilation of the stent valve (D, arrow).

As the only remaining treatment option, a second 29-mm prosthesis was implanted as a valve-in-valve procedure. After successful deployment, residual regurgitation was ruled out by transesophageal echocardiography (E to F, Online Video 1). The position of both stents was evaluated further by a computed tomography scan, demonstrating the overlapping position of the first and second valve in the ascending graft (G to I). The patient experienced immediate functional improvement and remains in good clinical condition 3 months after the procedure. Panels G, H, and I courtesy of the Institute of Radiology, Friedrich-Schiller-University, Jena, Germany.