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## **TAVI in a low left main coronary artery ostium and wide aortic sinus of Valsava**

Nguyen-Kim, Thi Dan Linh; Binder, Ronald K; Lüscher, Thomas F; Falk, Volkmar; Frauenfelder, Thomas; Landmesser, Ulf

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use of inflammatory biomarkers in cardiovascular disease and diabetes that have been licensed to AstraZeneca and Siemens. Neither P.M.R. nor the Brigham and Women's Hospital receive royalty payments related to the use of these biomarkers in either the CIRT or CANTOS trials.

## References

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

## CARDIOVASCULAR FLASHLIGHT

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# TAVI in a low left main coronary artery ostium and wide aortic sinus of Valsava

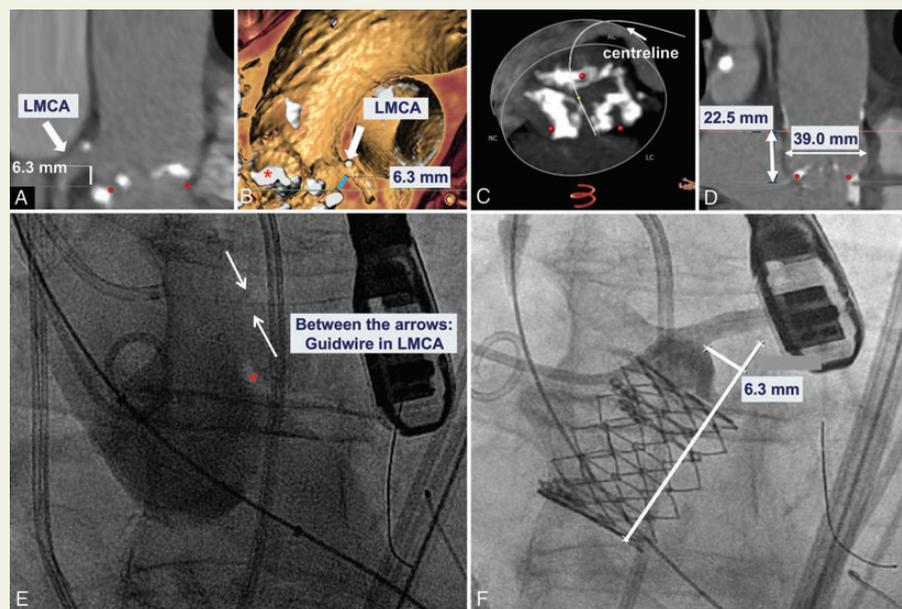
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A very short distance between the aortic annulus and the left main coronary artery (LMCA) ostium is typically a contraindication for transcatheter aortic valve implantation (TAVI) given concerns of potential coronary obstruction following their deployment. We report the case of an 85-year-old patient admitted to our hospital with acute cardiac decompensation. Transthoracic echocardiography demonstrated severe aortic valve stenosis (aortic valve area: 0.7 cm<sup>2</sup>) and LV ejection fraction of 40%. Coronary angiography showed minimal coronary artery disease. The patient was considered unsuitable for conventional cardiac surgery due to several comorbidities, however, a planning



computed tomography for TAVI revealed an extremely low-lying LMCA (6.3 mm from the aortic annulus; Panels A and B) and calcified, bulky aortic valve leaflets [Panels B, C, and E (red asterisk)]. Because of repeated haemodynamic instabilities, we decided to first perform a balloon aortic valvuloplasty with a guidewire and angioplasty balloon in place in the LMCA (Panel E) as a precaution against obstruction. This was followed by TAVI with an Edwards-SAPIEN-XT 29 mm valve without any obstruction noted due to a wide aortic sinus of Valsalva (39 mm, Panels D and F). No paravalvular leak was noted and the patient recovered rapidly.

Coronary obstruction is a rare, but severe complication following TAVI. A short distance (<10 mm) between the aortic annulus and LMCA has been considered a contraindication in recent guidelines. In the first multi-centre registry of coronary obstruction following TAVI, both the distance of the aortic annulus to the LMCA and the width of the aortic sinus of Valsalva were determined to be risk factors. The present case illustrates that TAVI can be successfully performed in selected patients with a low LMCA and bulky, calcified aortic valve leaflets in the presence of a very wide aortic sinus of Valsalva, however, precaution with a guidewire and angioplasty balloon in place is recommended.

R.K.B. is a consultant for Edwards Lifesciences, Inc., Irvine, CA, USA.

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