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Titel des Beitrags:
Aortic annulus evaluation in transcatheter aortic valve implantation.

Abstract:
We compared the annulus diameters measured by transthoracic echocardiography (TTE), transesophageal echocardiography (TEE), and dual-source computed tomography (DSCT) before transcatheter aortic valve implantation (TAVI). In TAVI correct evaluation of the aortic annulus is mandatory to choose the correct prosthesis type and size and to prevent complications. There is no gold standard for the assessment of aortic annulus diameters. Preoperative assessment of the aortic annulus with TTE, TEE, and DSCT was performed in 187 consecutive patients referred for TAVI between June 2007 and May 2009. The mean aortic annuli were 22.6 ± 2.0 mm measured with DSCT, 22.3 ± 2.5 mm with TTE, and 22.9 ± 2.2 mm with TEE. Despite a strong correlation between the measurement techniques, relevant statistical spread occurred with differences up to 3 mm in all measurement methods. Inter- and intraobserver variability was good for TEE and less satisfactory for DSCT measurements. TEE measurements taken as decisive parameter for the implantation changed the implantation strategy in 15.5% of patients and did not show an increased rate of procedural complications. Despite a strong correlation, the measurement techniques for the aortic annulus show relevant statistical spread, consequently one measurement technique cannot definitely predict...
another. TEE measurements show a more satisfactory intra- and interobserver variability than DSCT. Taking TEE annulus measurements as decisive parameter for the implantation has an impact on the implantation strategy and is safe with a low rate of procedural complications.