

# FEops HEARTguide™ Case Report: TAVI

Operators: Dr Matti Adam, Dr Elmar Kuhn

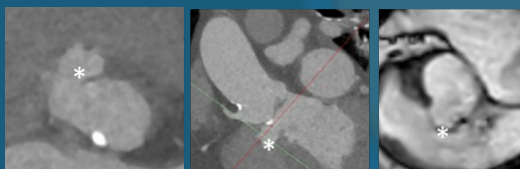
Department of Cardiovascular Medicine, Department of  
Cardiothoracic Surgery Heart Centre, University of Cologne, Germany

An 87-year-old female patient with a history of arterial hypertension presents with severe symptomatic (NYHA Class II) aortic stenosis

## Challenge

Cardiac CT revealed subannular bulging, identified as *Interventricular Membranous Septal Aneurysm* (\*)

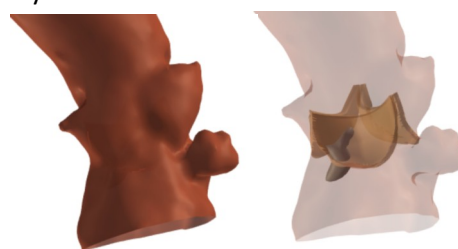
- 1) Complex anatomy, difficult definition of annular plane and diameter
- 2) Challenging decision regarding valve size, dislocation risk vs. rupture risk
- 3) Unclear valve performance with regard to PVL



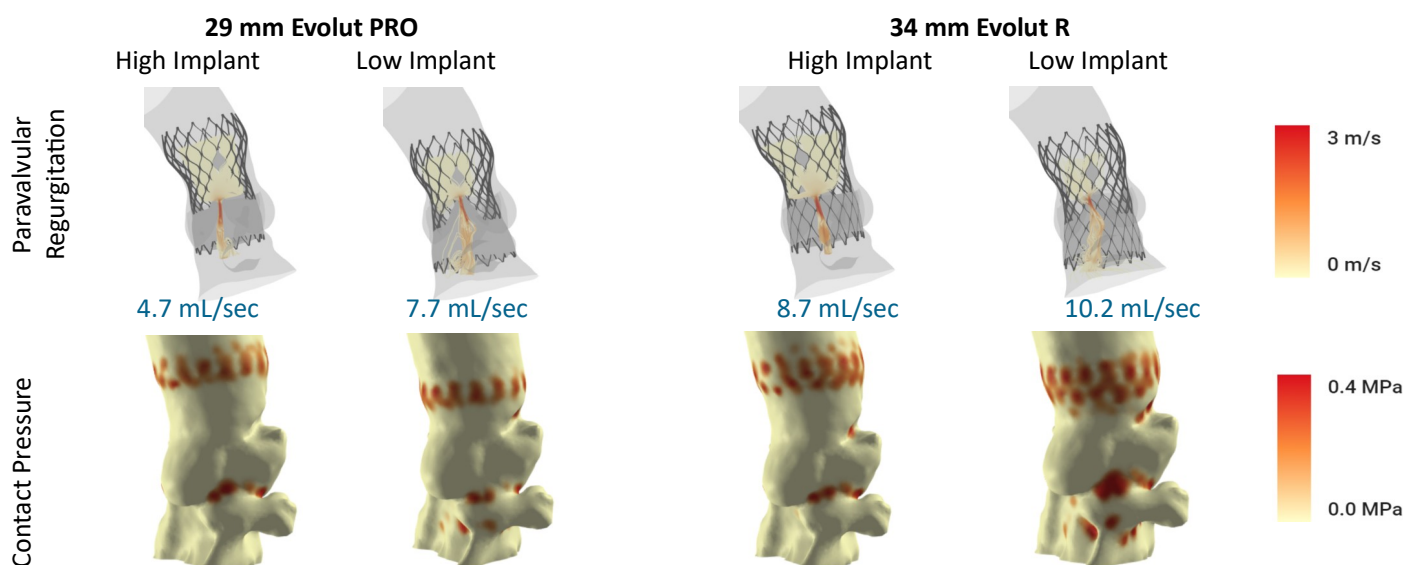
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## Solution

FEops HEARTguide™ provides patient-specific computer simulations that allow to assess the impact of TAVI sizing and positioning. The simulation results allow to assess the risk of PVL and conduction abnormalities, even in this patient with a complex anatomy and challenging annular diameter definitions. Additionally, a very low position is simulated to evaluate the theoretical occlusion of the aneurysm.

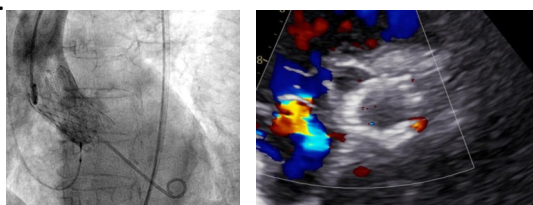


## FEops HEARTguide™ simulations



## Result

FEops HEARTguide™ simulations showed lowest PVL prediction for the high implant - 29mm Evolut Pro with adequate contact pressure. Therefore, a Evolut PRO 29mm transcatheter heart valve was implanted at high implant depth. Following TAVI, PVL was present in the predicted area, echocardiographic assessment revealed PVL I°. There was no rupture of the membranous septal aneurysm or dislocation of the valve.



"In complex anatomies, patient specific computer simulations with FEops HEARTguide™ provide instrumental information regarding feasibility, procedure outcome and patient safety"

- Dr Matti Adam