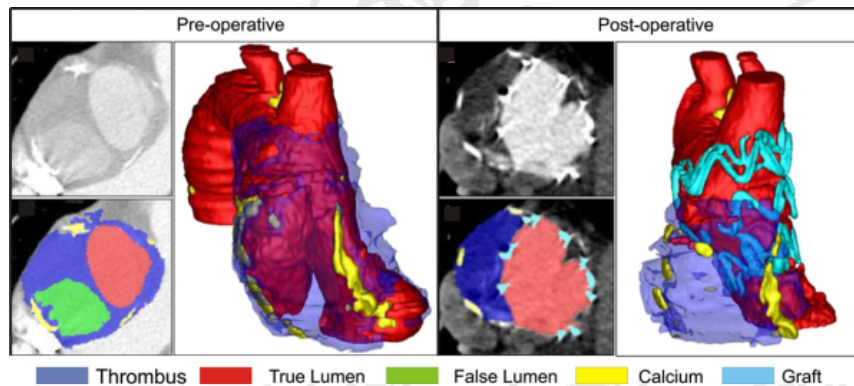


Simulation of aortic endografting

Clinical problem: Despite the use of endovascular approaches to treat thoracic aortic diseases is rapidly arising thanks to the innovations in catheter-based technologies, the procedure remains challenging. In this context, the integration of biomechanical aspects, regarding both vascular target and prosthesis design, might be helpful to predict the procedure outcomes. Such considerations are particularly meaningful for fenestrated endografts.

Objective: the activity aims at using structural finite element analysis to assess the mechanical behaviour of a given prosthesis design implanted in a patient-specific vascular model.



Type: Literature review / Numerical

Prerequisites:

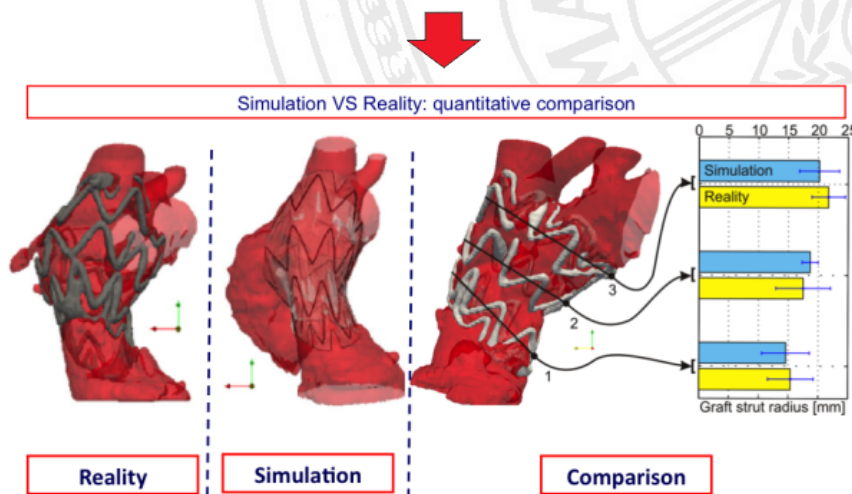
- Interest in vascular biomechanis
- Basic knowledge of structural Finite Element software

References

✓ <http://evtoday.com/evar/>

✓ F. Auricchio, M. Conti, S. Marconi, A. Reali, J. Tolenaar, S. Trimarchi. *Patient-specific aortic endografting simulation: from diagnosis to prediction*. Computers in Medicine and Biology. 2013 May;43(4):386-94

Key collaboration. IRCCS Policlinico San Donato (MI), Vascular surgery dept.



Thesis proposal