

Accepted Manuscript

A robust construction algorithm of the centerline skeleton for complex aortic vascular structure using computational fluid dynamics

Joulien Touati, Marco Bologna, Adeline Schwein, Francesco Migliavacca, Marc Garbey



PII: S0010-4825(17)30114-2

DOI: [10.1016/j.combiomed.2017.04.017](https://doi.org/10.1016/j.combiomed.2017.04.017)

Reference: CBM 2653

To appear in: *Computers in Biology and Medicine*

Received Date: 27 December 2016

Revised Date: 6 April 2017

Accepted Date: 26 April 2017

Please cite this article as: J. Touati, M. Bologna, A. Schwein, F. Migliavacca, M. Garbey, A robust construction algorithm of the centerline skeleton for complex aortic vascular structure using computational fluid dynamics, *Computers in Biology and Medicine* (2017), doi: 10.1016/j.combiomed.2017.04.017.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

A robust construction algorithm of the centerline skeleton for complex aortic vascular structure using Computational Fluid Dynamics

Joulien Touati^a, Marco Bologna^{a,b*}, Adeline Schwein^{a,c}, Francesco Migliavacca^d, Marc Garbey^{a,e}

*Corresponding author: marco.bologna@polimi.it, Tel: +39 3349047947 (personal); +39 0223993322 (office).

^a Center for Computational Surgery, Houston Methodist Hospital, 6670 Bertner Avenue, WP254, Houston, TX, USA, 77030

^b Biosignals, Bioimaging and Bioinformatics Laboratory, Department of Electronics, Information and Bioengineering, Politecnico di Milano, Via Golgi, 39, 20133, Milan, Italy

^c Department of vascular surgery and kidney transplantation, University Hospital of Strasbourg, 1 Place de L Hôpital, 67000, Strasbourg, France

^d Laboratory of Biological Structure Mechanics, Material and Chemical Engineering Department "G. Natta". Politecnico di Milano, Italy.

^e LaSIE UMR - 7356 CNRS – University of La Rochelle, Avenue Michel Crépeau, 17042, La Rochelle Cedex 1, France.

Abstract:

Centerlines of blood vessels are useful tools to make important anatomical measurements (length, diameter, area), which cannot be accurately obtained using 2D

Download English Version:

<https://daneshyari.com/en/article/4964965>

Download Persian Version:

<https://daneshyari.com/article/4964965>

[Daneshyari.com](https://daneshyari.com)