Journal of Cardiovascular Computed Tomography 13 (2019) S2

Contents lists available at ScienceDirect

Journal of Cardiovascular Computed Tomography

journal homepage: www.elsevier.com/locate/jcct

2019-A-16-SCCT

Abstract 2: Assessment Of Heart Team'S Treatment Decision Variability: Insights From The Syntax III Revolution Trial

Daniele Andreini (MD)[1], Saima Mushtaq (MD)[1], Carlos Collet (MD)[2], Gianluca Pontone (MD, PhD)[1], Mauro Pepi (MD)[1], Laurent Macron (MD)[3], Giorgia Bonalumi (MD)[1], Cristina Ferrari (MD)[1], Maurizio Roberto (MD)[1], Yosuke Miyazaki (MD)[4], Laura Cavallotti (MD)[1], Yoshinobu Onuma (MD)[4], Paolo Olivares (MD)[1], Francesco Maisano (MD)[5], Antonio Bartorelli (MD)[1], Patrick Serruys (MD)[6]

[1] *Monzino Cardiology Center, Milan, Italy*
[2] *University of Amsterdam, Amsterdam, Netherlands*
[3] *Centre Cardiologique du Nord, Saint-Denis, France*
[4] *Thoraxcenter, Rotterdam, Netherlands*
[5] *University Hospital Zürich, Zürich, Switzerland*
[6] *Imperial College, London, United Kingdom*

Introduction: Severe coronary calcification hampers visual coronary computed tomography angiography (CCTA) assessment due to the blooming artefact and have been associated with discrepancy between non-invasive and invasive luminal evaluation. Moreover, the presence of severe calcification, which are easily detectable with CCTA, could influence treatment decision and planning in patients with multivessel coronary artery disease.

Methods: SYNTAX III was a multicentre, international study that included patients with left main or three-vessel coronary artery disease (CAD). The heart team was randomized to either assess the epicardial coronary disease with CCTA or conventional angiography. Clinical information was used to computed the SYNTAX score II which provided a treatment recommendation based on predicted 4-year mortality. For the present analysis, we stratified the patients based on the present of at least one lesion with heavy calcification defined as arc of calcium > 180º within the lesion using CCTA. Agreement on the anatomical SYNTAX score and on treatment decision were compared between patients with and without heavy calcifications.

Results: Overall, 222 patients with analysable CCTA and conventional angiography were included in this analysis. The mean difference in the anatomical SYNTAX score was lower in patients without heavy calcifications (1.5; LOA -17.1; 20.2 versus 5.9; LOA -17.4, 29.2, $p = 0.004$). The agreement on treatment decision did not differ between coronary in patients with or without calcifications.

Conclusions: The presence of heavy coronary calcification influences the agreement between CCTA and conventional angiography on the anatomical SYNTAX score. However, agreement on treatment decision was high irrespective of the presence of calcified lesions.

https://doi.org/10.1016/j.jcct.2018.12.006

Available online 05 January 2019