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## Abstract 5: Comprehensive Evaluation Of Newly Diagnosed Left Ventricle Dysfunction By A Novel Whole-heart Coverage Cardiac Ct: Preliminary Results Of The E- PLURIBUS Study

Edoardo Conte (MD)<sup>1</sup>, Saima Mushtaq (MD)<sup>1</sup>, Marco Guglielmo (MD)<sup>1</sup>, Andrea Baggiano (Cardiologist)<sup>1</sup>, Andrea D. Annoni (MD)<sup>1</sup>, Alberto Formenti (MD)<sup>1</sup>, Elisabetta Mancini (MD)<sup>1</sup>, Giuseppe Muscogiuri (MD)<sup>1</sup>, Gianluca Pontone (MD, PhD)<sup>1</sup>, Mauro Pepi (MD)<sup>1</sup>, Daniele Andreini (MD)<sup>2</sup>

<sup>1</sup> Monzino Cardiology Center, Milan, Italy

<sup>2</sup> Monzino Cardiology Center, Milano, Italy

**Introduction:** Cardiac CT has been recently described as a comprehensive tool for assessment of cardiac anatomy and function. Aim of the study is to evaluate feasibility and accuracy of a functional and anatomical evaluation with cardiac CT vs cardiac magnetic resonance (CMR).

**Methods:** A consecutive cohort of patients with newly diagnosed left ventricular dysfunction (LVD) was assessed. Biventricular volume and ejection fraction together with myocardial fibrosis evaluation was obtained by CT and compared with CMR for every patients. The etiology of LVD (ischemic vs non-ischemic) was defined at CT blinded to CMR results and the rate of concordant diagnosis of CT vs. CMR was evaluated. Radiation dose was recorded.

**Results:** 40 patients have been enrolled from January 2018 and

September 2018. Biventricular volumes and ejection fractions (EFs) were similar when evaluated at CT and CMR. Particularly, left ventricle EF was similar between CT (35.9 ± 9.7%) and MRI (35 ± 9.8%, p=0.2055). Right ventricle end diastolic volume (EDV) was slightly overestimated by CT (178.7 ± 55.7 mL vs. 155.4 ± 54.1 mL, CT vs. CMR, respectively, p=0.0048). Thirty patients showed late enhancement (LE) consistent with myocardial fibrosis at CMR, of whom 97% (29/30) were correctly identified by CT. All patients without LE at CMR had no fibrosis at CT. Moreover, in one patient only, the etiology of LVD was discordant between CT and CMR. Total radiation dose for CT was 8.4 ± 2.1 mSv (0.84 ± 0.2 mSv for LE assessment).

**Conclusions:** Cardiac CT appears to be feasible and accurate in the evaluation of newly diagnosed LVD in comparison with CMR.

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