The DANISH trial taught us that for a large number of patients with non-ischemic systolic heart failure, implanting an ICD does not decrease the mortality and that the survival in this group of patients decreased linearly with increasing age. Nowadays, the left ventricular ejection fraction (lower or equal with 35%) is the key criterion of the current guidelines for implanting an ICD in primary prevention purposes. In addition, registry data outlined that many patients (70-80%) with DCM and out-of-hospital aborted cardiac arrest did not show a markedly reduced LV-EF%. Therefore, it became clear that we need to extend the evaluation of patients using new criteria in order to better select the patients who are at high risk of sudden death from arrhythmic events. Late gadolinium enhancement in CMR is a proven powerful predictor of ventricular arrhythmias in patients with ventricular dysfunction, irrespective of ischemic or non-ischemic etiology. Multiple studies as well as meta-analysis, evaluating thousands of patients, showed that the arrhythmic endpoint was reached in a significant higher percent of patients with a positive test vs patients with a negative LGE test. This lecture will topic the current meta-analysis and the main actual indications of performing LGE-CMR as well as the detailed explanation of the method and its algorithms. The analysis and interpretation of data will also be covered during this presentation. An interesting question is to be pointed out for the further studies, aiming if patients with LGE would be elicite for primary prevention with ICD irrespective of their systolic function measured with the ejection fraction. This question is addressing the fact that the correct selection of patients who are at highest risk of arrhythmic events will persuade the most benefit of ICD-therapy.

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Monica Trofin works as a cardiologist at the Monza Hospital in Bucharest, Romania, which is a part of Monza Group. She is interested in cardiac electrophysiology and cardiac imaging. She worked in Zurich, Switzerland as a rhythmologist, taking part in studies that developed the cardiac ablation methods. Since 2015 Dr. Trofin is European certified (level 1) in implanting cardiac devices. Focusing her interest in cardiac magnetic resonance, she completed fellowships in Cardiac Center Leipzig and in CMR-Academy of Cardiac Institute of Berlin, Germany. Dr. Monica Trofin is also passionate in teaching and is highly active in broadening the quality of healthcare in her country.