Abstract ID: 89309

Student: Rohrer Ursula

Area of Research: Sustainable Health Research and Clinical Science

PhD Programme: DS Translational Molecular and Cellular Biosciences (TMCB)

Semester: 6

Prevention of early sudden cardiac death after myocardial infarction using the wearable cardioverter defibrillator Results from a real-world cohort

U. Rohrer; M. Manninger; C. Ebner; D. Mörtl; H. Keller; L. Fiedler; H. Alber; C. Steinwender; R. K. Binder; M. Stühlinger; B. Zirngast; D. Zweiker; A. Zirlik; D. Scherr

Background and Aims After acute myocardial infarction (AMI), patients are at elevated risk of sudden cardiac death. The VEST trial failed to show a significant reduction in arrhythmic mortality in patients prescribed with a wearable converter-defibrillator (WCD), having a lower than expected wearing compliance. The aim was to investigate the incidence of WCD treatments and outcomes of all patients with acute myocardial infarction and left ventricular ejection fraction (LVEF) ?35% in a real world and well-compliant national cohort in Austria.

Methods A retrospective analysis of all Austrian WCD patients meeting the in- and exclusion criteria of the original VEST trial between 2010 and 2020 was performed.

Results 105/896 Austrian patients (12%) with an average age of 64±11 years (12% female; LVEF 28±6%) met the VEST in- and exclusion criteria. 104/105 patients were revascularized, one patient did not receive a coronary intervention. All received a WCD for a median of 69 (1;277) days. The wearing duration was 23.5 (0;24) hours/day. Within 90 days after prescription 4/105 (3.8%) patients received 9 appropriate shocks (median of 2 (1;5) shocks). No inappropriate shocks were delivered. 3/105 (2.9%) patients died: two patients received shocks and died in ventricular storm; one patient died due to asystole. Arrhythmic mortality (1.9% Austria vs. 1.6% VEST, p=n.s.), as well as all-cause mortality (2.9% vs. 3.1%, p=n.s.) was comparable in both cohorts.

Conclusion The WCD is a safe treatment option in a highly selected cohort of patients with LVEF ?35% after AMI. However, despite excellent WCD wearing duration, as opposed to the VEST study, only 3.8% of patients received appropriate WCD shocks and the arrhythmic mortality rate was not significantly different from the VEST study.