Similarities and Differences between Israeli and European Recruits to the MADIT-CRT Trial

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Objective: To evaluate the baseline characteristics, clinical and echocardiographic outcomes and adverse events between Israeli and European recruits to the MADIT CRT trial.

Background: The 1820 study patients were recruited from 120 worldwide medical centers in the United States (1271 patients) or Europe (549 patients) and were randomly assigned in a 3:2 ratio to receive either CRT-D or ICD. Methods: Of the 549 patients recruited in Europe, 75 were recruited in 3 medical centers in Israel. Baseline characteristics, implant associated adverse events and the effect of CRT-D relative to ICD on death or heart failure (whichever came first), heart failure only and death at any time were compared for European and Israeli recruits.

Results: Patients recruited in Israel were significantly older (67 Vs. 62 years old, p<0.001), had more ischemic cardiomyopathy (84% vs. 53%, p<0.001), had shorter QRS duration (151 ms vs. 162 ms, p<0.001) and had less often LBBB (78% vs.54%, p<0.001). At an echocardiography performed after 12 months, Israeli recruits had significantly lower gain of LVEF (8.4 vs. 10.7 %, P=0.01). LVESV and LVEDV decreased to a significant lesser degree in Israeli recruits (p=0.03 and p=0.04, respectively). At a mean follow up of 2.4 years, CRT-D therapy was associated with a decrease in the risk of heart failure or death (whichever came first) and of heart failure in European recruits only, but not in Israeli recruits (figure). On a multivariate analysis, CRT-D therapy was associated in decrease in these risks for European recruits only as well. The occurrence of adverse events was not different between the groups.

Conclusions: CRT-D therapy conferred significantly greater benefits for European recruits to the MADIT CRT trial when compared to Israeli recruits, possibly due to significant differences in important patients' baseline characteristics.

Kaplan–Meier Estimates of the Probability of Survival Free of Death or Heart Failure for patients recruited in Europe(left) and Israel (right).