

## Clinical Characteristics and Outcomes of Elderly Patients Treated With ICD and CRTD in a Real World Setting: Data from the Israeli ICD Registry

Mahmoud Suleiman<sup>1</sup>, Moti Haim<sup>2</sup>, Jorge E. Schliamser<sup>3</sup>, Monther Boulos<sup>1</sup>, Sami Viskin<sup>4</sup>,  
Moshe Swissa<sup>5</sup>, Natalie Gavriellov-Yusim<sup>6</sup>, Therese Fuchs<sup>7</sup>, Michael Ilan<sup>8</sup>, Ilan  
Goldenberg<sup>6</sup>, Michael Glikson<sup>9</sup>

<sup>1</sup>Cardiology, Rambam, Israel

<sup>2</sup>Cardiology, Rabin Medical Center, Israel

<sup>3</sup>Cardiology, Carmel Medical Center, Israel

<sup>4</sup>Cardiology, Tel Aviv Sourasky Medical Center, Israel

<sup>5</sup>Cardiology, Kaplan Medical Center, Israel

<sup>6</sup>IACT-Neufeld Cardiac Research Institute, Sheba, Israel

<sup>7</sup>Cardiology, Assaf Harofeh Medical Center, Israel

<sup>8</sup>Cardiology, Shaare Zedek Medical Center, Israel

<sup>9</sup>Cardiology, Sheba Medical Center, Israel

### **Introduction:**

Elderly patients are under-represented in clinical trials of device therapy. We aimed to provide real world data regarding outcomes associated with device-based therapy in a large cohort of elderly patients enrolled in the Israeli ICD Registry.

### **Methods:**

A total of 2807 consecutive patients undergoing ICD/CRT-D implantation were prospectively enrolled in the Israeli ICD Registry. Patients were categorized into 3 age groups:  $\leq 60$  years (49%), 61 to 75 years (31%) and  $>75$  years (20%).

### **Results:**

Median follow-up duration was 317 days. Elderly patients ( $>75$  years) had more co-morbid conditions, a more advanced heart failure (HF), a wider QRS, a lower left ventricular EF, and were more likely to undergo CRTD implantation (all  $p < 0.01$ ). However, the rate of device-related complications associated with surgical re-interventions at 1-year was  $<3\%$  regardless of age ( $p = 0.70$ ). Kaplan-Meier survival analysis showed that during follow-up elderly patients implanted with ICDs experienced a significant increase in the cumulative probability of appropriate ICD therapy or death ( $p < 0.001$ ) and of HF or death (Figure - top panel). In contrast, among patients implanted with CRT-D devices there was no significant difference in the corresponding rates of appropriate ICD therapy or death ( $p = 0.75$ ) and of HF or death among the 3 age groups (Figure -bottom panel).

**Conclusions:** In a real world scenario, elderly patients ( $>75$  years) comprise approximately 20% of ICD/CRTD recipients and experience a similar device re-intervention rate as their younger counterparts. Our data suggest that the association between advanced age and adverse clinical outcomes is attenuated in elderly patients implanted with CRT-D devices.

