

## **Predictors for Patient Outcome Following Two Decades of Pacemaker Implantation**

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Pacemaker implantation (PCMI) is carried out in thousands of patients in Israel every year. There is limited data regarding the Israeli patient's characteristics and on the predictors for long term survival.

We report on a series of consecutive patients who underwent pacemaker implantation in our center.

Method: we review all the patients who underwent PCMI in our hospital in 1991-2010. We recorded patients demographic, symptoms, electrophysiological indication and pacemaker type. Survival analysis was performed by the Kaplan-Meier method. Groups were compared by log rank method.

Results: During the study period, 1009 patients underwent initial PCMI. Mean age was  $74.6 \pm 19$ , 53% were male. Presenting symptoms were syncope 63%, Pre-syncope 22% and fatigue 15%. The electrophysiological indications for pacing were complete AV block (CAVB) 56%, Sick Sinus syndrome 30%, Carotid sinus hypersensitivity 9%, and slow atrial fibrillation 5%. Dual chamber pacemaker was implanted in 65.6%, Single chamber ventricular pacemaker in 33.5% and atrial pacemaker in 0.9%. In two decades of follow-up 539 (53.4%) patients died. The median survival was 8 years. Patients who dies were older at PCMI  $77.8 \pm 9.2$  versus survivors  $70.9 \pm 11.4$  years ( $p < 0.0001$ ). There was no difference regarding pacing mode selection and survival between genders. Rate of dual chamber PCMI was significantly higher in the last decade, 74% versus 53% ( $p < 0.001$ ). Patients in whom dual chamber pacemaker was implanted were younger  $72.5 \pm 10.8$  versus  $77.8 \pm 9.2$  ( $p < 0.001$ ), were less likely to have CAVB 51% versus 69% ( $p < 0.001$ ) and had a significantly better 10 years survival 50% versus 20% ( $p < 0.001$ ). Patients with CAVB had 10 years survival 38% versus 45% ( $p < 0.01$ ). Presenting symptoms has no bearing on the prognosis. In conclusion, in the elderly population undergoing initial PCMI, there is an eight years median survival that is associated with patient age at implant, CAVB as pacing indication and pacemaker type.