

## Permanent pacemaker implantation in unexplained syncope patients with electrophysiology study-proven atrioventricular node disease

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**Background/Introduction:** Syncope, whose cause is unknown after an initial assessment, has an uncertain prognosis. It is critical to identify patients at highest risk who may require a pacemaker and to identify the cause of recurrent syncope to prescribe proper therapy

**Purpose:** Aim of this study was to evaluate the effect of permanent pacing on the incidence of syncope in patients with unexplained syncope and electrophysiology study-proven atrioventricular node disease.

**Methods:** This was an observational study based on a prospective registry of 236 consecutive patients ( $60.20 \pm 18.66$  years, 63.1% male,  $60.04 \pm 9.50$  bpm) presenting with recurrent unexplained syncope attacks admitted to our hospital for invasive electrophysiology study (EPS). The implantation of a permanent antibradycardia pacemaker (ABP) was offered to all patients according to the results of the EPS. 135 patients received the ABP, while 101 denied.

**Results:** The mean of reported syncope episodes was  $1.97 \pm 1.10$  (or presyncope  $2.17 \pm 1.50$ ) before they were referred for a combined EP guided diagnostic and therapeutic approach. Over a mean follow-up of approximately 4 years ( $49.19 \pm 29.58$  months), the primary outcome event (syncope) occurred in 31 of 236 patients (13.1%), 6 of 135 (4.4%) in the ABP group as compared to 25 of 101 (24.8%) in the no pacemaker group ( $p < 0.001$ ).

**Conclusion:** Among patients with a history of unexplained syncope, a set of positivity criteria for the presence of EPS defined atrioventricular node disease, identifies a subset of patients who will benefit from permanent pacing.