

## **PREDICTORS OF SUDDEN DEATH IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME. A PROSPECTIVE FOLLOW-UP STUDY OF 201 SYMPTOMATIC WPW PATIENTS PRESENTING WITH MALIGNANT ARRHYTHMIAS**

ACC Poster Contributions

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Authors: *Vincenzo Santinelli, Andrea Radinovic, Giuseppe Ciconte, Gabriele Vicedomini, Pasquale Vergara, Gabriele Paglino, Cristiano Ciaccio, Stefania Sacchi, Massimo Saviano, Amarild Cuko, Valerio Giordano, Carlo Pappone, San Raffaele University-Hospital, Milan, Italy*

**Background:** No studies in large cohorts of patients with WPW syndrome looking at predictors of malignant arrhythmias or sudden death are available.

**Methods:** From January 1997 to January 2007, among 8575 symptomatic WPW patients with AVRT but without malignant arrhythmias (MA) referred for catheter ablation of accessory pathways (AP), 201 patients (mean age, 13.5±5 years, 137 M), who refused to undergo catheter ablation, were selected for this prospective study. Primary endpoint was to evaluate the characteristics of patients presenting with MA. Predictors of MA were also analyzed.

**Results:** During a mean follow-up of 42.1±10 months, MA developed in 29 patients (mean age, 16±8.8 years, 27 M): Of them, 13 patients presented with ventricular fibrillation and 16 patients (mean age 13.1±1, 27 M) experienced life-threatening arrhythmias. The remaining 172 patients (mean age, 13.1±1, 110 M) had recurrent episodes of AVRT (131 patients) or AF (42 patients) but no patient developed MA. Patients with MA were older ( $p=0.003$ ), more often were male ( $p=0.002$ ) with shorter AP-AERP ( $p=0.001$ ) and more often multiple AP ( $p=0.001$ ) and induced AVRT triggering AF (AVRT-AF) were observed ( $p=0.001$ ). A shorter CL of AVRT-AF ( $p=0.001$ ) with shorter time to degenerating into AF ( $p=0.001$ ) was found in patients with MA. Multivariate analysis demonstrated that short AP-AERP ( $p=0.001$ ), multiple AP ( $p=0.037$ ), and AVRT-AF ( $p=0.001$ ) were independent predictors of MA.

Clinical implications. Routine ablation in WPW syndrome to prevent sudden death may be unnecessary in many cases. Children or adolescents at onset of symptoms being unaware of their exact risk may decline catheter ablation and/or may decide to stop long-term ADT over years, as it was in many cases of our series who experienced ventricular fibrillation.

**Conclusions:** Short AP-AERP, multiple AP and AVRT-AF are independent predictors of MA in patients with WPW syndrome. Although current guidelines suggest a liberal indication for catheter ablation in patients with WPW syndrome, these data indicate that EPT and contextual catheter ablation is mandatory in symptomatic children or young WPW subjects at risk.