Clinical recurrence of palpitations following slow pathway ablation in patients with suspected paroxysmal supraventricular tachycardias but non-documented, non-inducible tachycardias

Ramos Jimenez J.[1]; Marco Del Castillo A.[1]; Lozano Granero VC.[2]; Lazaro Rivera C.[3]; Salgado R.[4]; Rodriguez Manero M.[5]; Ramos Fernandez P.[6]; Dallaglio P.[7]; Gunturiz Beltran C.[8]; Alonso Fernandez P.[9]; Ayala HD.[10]; Jimenez Sanchez D.[11]; Lopez Gil M.[1]; Arribas Ynsaurriaga F.[1]; Rodriguez Munoz DA.[1]

[1]University Hospital 12 de Octubre, Madrid, Spain
[2]University Hospital Ramon y Cajal de Madrid, Madrid, Spain
[3]Hospital Torrejon, Madrid, Spain
[4]Hospital Clinico San Carlos, Madrid, Spain
[5]University Hospital A Coruna, A Coruna, Spain
[6]General University Hospital of Alicante, Alicante, Spain
[7]University Hospital Bellvitge, Barcelona, Spain
[8]GENERAL UNIVERSITY HOSPITAL OF CASTELLON, Castellon de la Plana, Spain
[9]Hospital de Manises, Valencia, Spain
[10]University Hospital La Fe, Valencia, Spain
[11]University Hospital Puerta de Hierro Majadahonda, Madrid, Spain

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Introduction: Catheter ablation is recommended as first-line treatment in patients with atrioventricular nodal reentry tachycardias (AVNRT). However, the best therapeutic modality in patients with dual AV nodal physiology but non-inducible tachycardias in electrophysiological study (EPS) remains controversial, especially when no tachycardias have been documented.

Our objective was to evaluate the results of empirical slow pathway ablation in patients showing dual AV nodal physiology but non-inducible AVNRT.

Methods: Multicenter, retrospective, observational registry of consecutive patients undergoing EPS due to clinical suspicion of paroxysmal supraventricular tachycardias (PSVT), but with no prior ECG documentation. Clinical, EPS and ablation (when performed) data were collected and andalyzed.

Results: 427 patients of 12 centers were included. Mean age was 46.3 ±16.1 and 297 (69.6%) were females. AVNRT was induced in 188 patients (typical in 181 cases, atypical in 7). Dual AV nodal physiology with or without single nodal echo beats, but with no sustained tachycardia and without evidence of accessory pathway was present in 68 patients. Ablation of the slow pathway was performed in 187/188 patients with AVNRT and in 30/68 patients with dual physiology. Among subjects with non-inducible tachycardia, ablation reduced significantly recurrences (39.5% in non-ablated vs. 16.7%; p = 0.04), with a level equivalent to those with ablated AVNRT(14.4% vs. 16.7%; p = 0.75). Procedure-related complications were similar in both groups: empirical ablation n = 1; 3.3% vs. induced tachycardia n = 6; 3.2% (p = 0.98).

Conclusions: In patients with high clinical suspicion of PSVT but non-documented and non-inducible arrhythmias, the presence of dual AV nodal physiology makes AVNRT a likely mechanism of the clinical tachycardia. Catheter ablation of slow pathway reduces the risk of recurrence to a level equivalent to those with inducible and ablated AVNRT.

	AVNRT (n = 188)	Dual nodal physiology (n = 68)	p value
Age (years)	48.6 ± 16.3	41.9 ± 14.0	<0.01
Female	71.8%	67.7%	0.52
Years symptomatic	9.3 ± 11.3	3.6 ± 8.1	<0.01
Sudden onset	83.9%	88.0%	0.54
Abrupt end	73.4%	74.6%	0.96
Previous rate-slowing drugs	30.9%	25.0%	0.36
Previous antiarrhythmic drugs	5.9%	2.9%	0.35
Isoproterenol in EPS	70.0%	89.7%	<0.01