Recurrence of palpitations following electrophysiological study and ablation in suspected but undocumented paroxysmal supraventricular tachycardias: follow-up results of the BELIEVE-SVT registry

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Funding Acknowledgements: Type of funding sources: None.

Introduction: ECG documentation of paroxysmal supraventricular tachycardias (PSVT) may be challenging due to their short duration and usually abrupt end. As ablation represents first-line treatment of this pathologies, it is not uncommon that physicians refer patients to electrophysiological study (EPS) when symptoms are suggestive of PSVT even though no ECG documentation has been obtained. Our objective was to evaluate the results of ablation performed in patients with induced arrhythmias in EPS but no previous ECG documentation.

Methods: Retrospective and observational multicenter registry of consecutive patients undergoing EPS, followed or not by ablation, referred because of undocumented clinical suspicion of PSVT. We collected clinical, EPS and clinical follow-up data, along with data regarding ablation, when performed. Descriptive statistical analysis was carried out using Stata.

Results: 427 patients of 12 centers were included. Mean age was 46.3 ± 16.1 and 297 (69.6%) were females. Sustained arrhythmias were induced in most patients (n = 255; 59.7%) and ablation was performed in 274 (64.2%). 10 complications (2.3% of procedures) were reported: 3 transient AV block, 2 PR interval prolongation, 2 puncture-related hematoma, 2 painful sites of puncture and 1 catheter entrapment in mitral chordae.

During a mean follow-up of 3.1 ± 2.0 years, 111 patients experienced recurrence of palpitations, mostly (n = 77; 69.4%) without ECG documentation. Clinical recurrence was more frequent in subjects who had not been ablated (41.8% vs 17.2% in ablated patients; risk ratio 2.44 (CI 95% 1.77-3.36); p < 0.001). Table 1 shows types of clinical recurrences.

Conclusions: EPS in patients with high clinical suspicion of PSVT, followed by ablation when tachycardia is induced is effective in preventing future recurrences of palpitations. Early referral for EPS can, therefore, reduce visits to the emergency room, admissions and healthcare burden due to other low-yield, unnecessary tests.

Type of recurrence

ECG documentation	34(8.0%)
·Sinus rhythm	12(2.8%)
·Atrial tachycardia	6(1.4%)
·Typical atrioventricular nodal reentrant tachycardia	5(1.2%)
·Atrial fibrillation	5(1.2%)
·Premature ventricular beats	3(0.7%)
·Orthodromic atriventricular tachycardia	2(0.5%)
Non documented recurrence	77(18.0%)