

CLINICAL IMPLICATIONS OF ABNORMAL ECG PATTERN IN LEFT-SIDED WPW

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Abstract

Objectives:

Ablation of accessory pathways (AP) is recommended for patients with ventricular pre-excitation. Negative delta waves in lead II on ECG have been associated with subepicardial AP requiring ablation within the coronary sinus (CS). We have identified a unique pre-excitation pattern on ECG in a subset of patients with left-sided AP. We sought to evaluate differences in procedural variables and outcomes in patients with manifest left-sided AP having this abnormal ECG pattern and those without.

Methods:

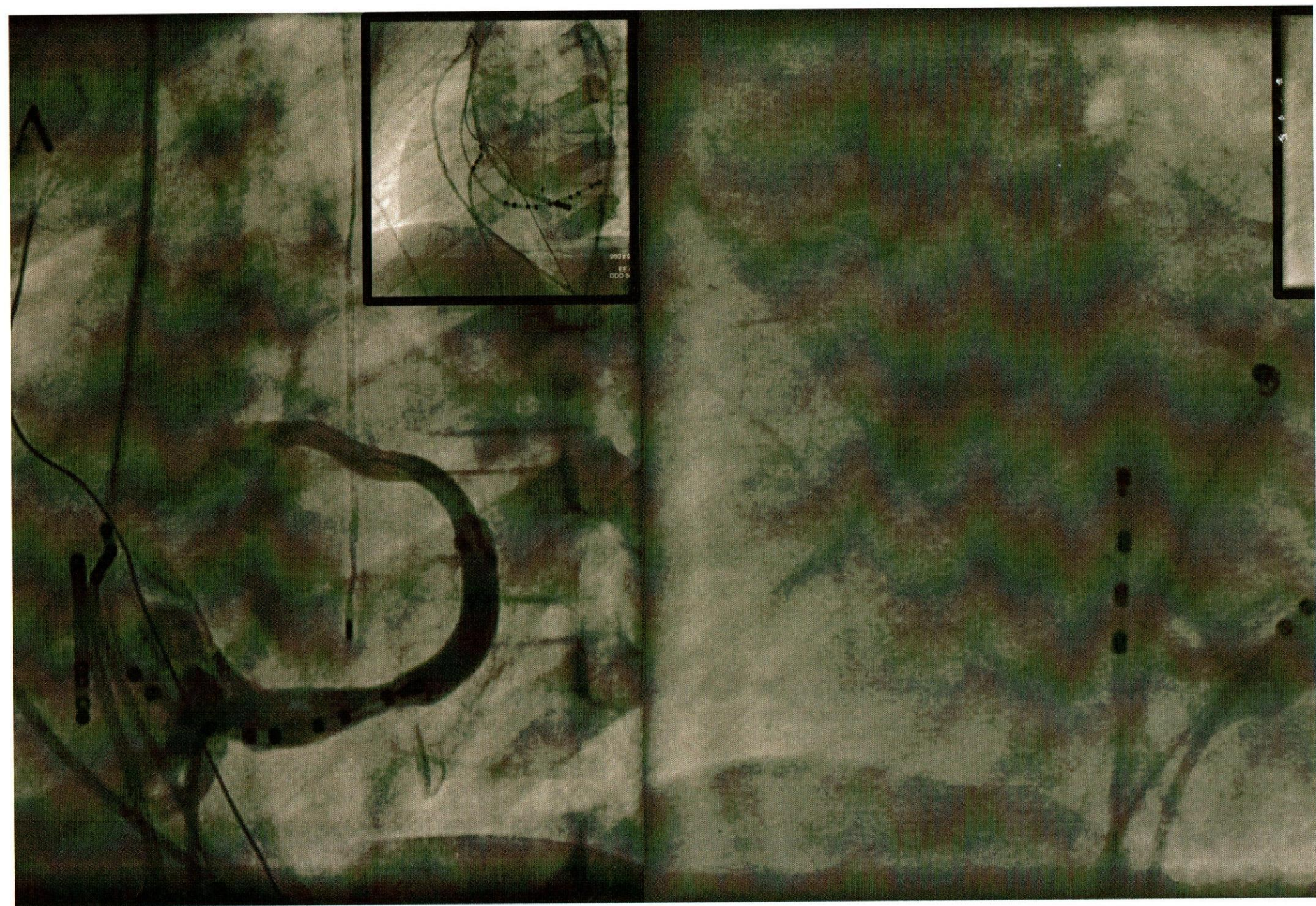
Retrospective analysis of patients undergoing radio-frequency (RF) catheter ablation of left-sided manifest AP 2013-2018. Procedural variables and outcomes for patients with unique ECG pattern and left-sided AP were compared against patients without this pattern and with left-sided AP.

Results:

Out of 104 patients, the unique ECG pattern group (3 patients) demonstrated no differences in age, weight, or sex when compared to the remaining left-sided AP patients. There were no significant differences between these groups in APERP, SPPCL, AP recurrence rate post-procedure, number of test lesions, and number of consolidation lesions. The unique ECG group had longer total case time (3.3 hrs vs 2.2 hrs), more total RF lesions (14 vs 6), more total RF lesion time (550 sec vs 240 sec), and longer time to loss of pre-excitation on the successful lesion (7.0 sec vs 2.9 sec). There were indications of CS abnormality associated with each of these patients.

Conclusions:

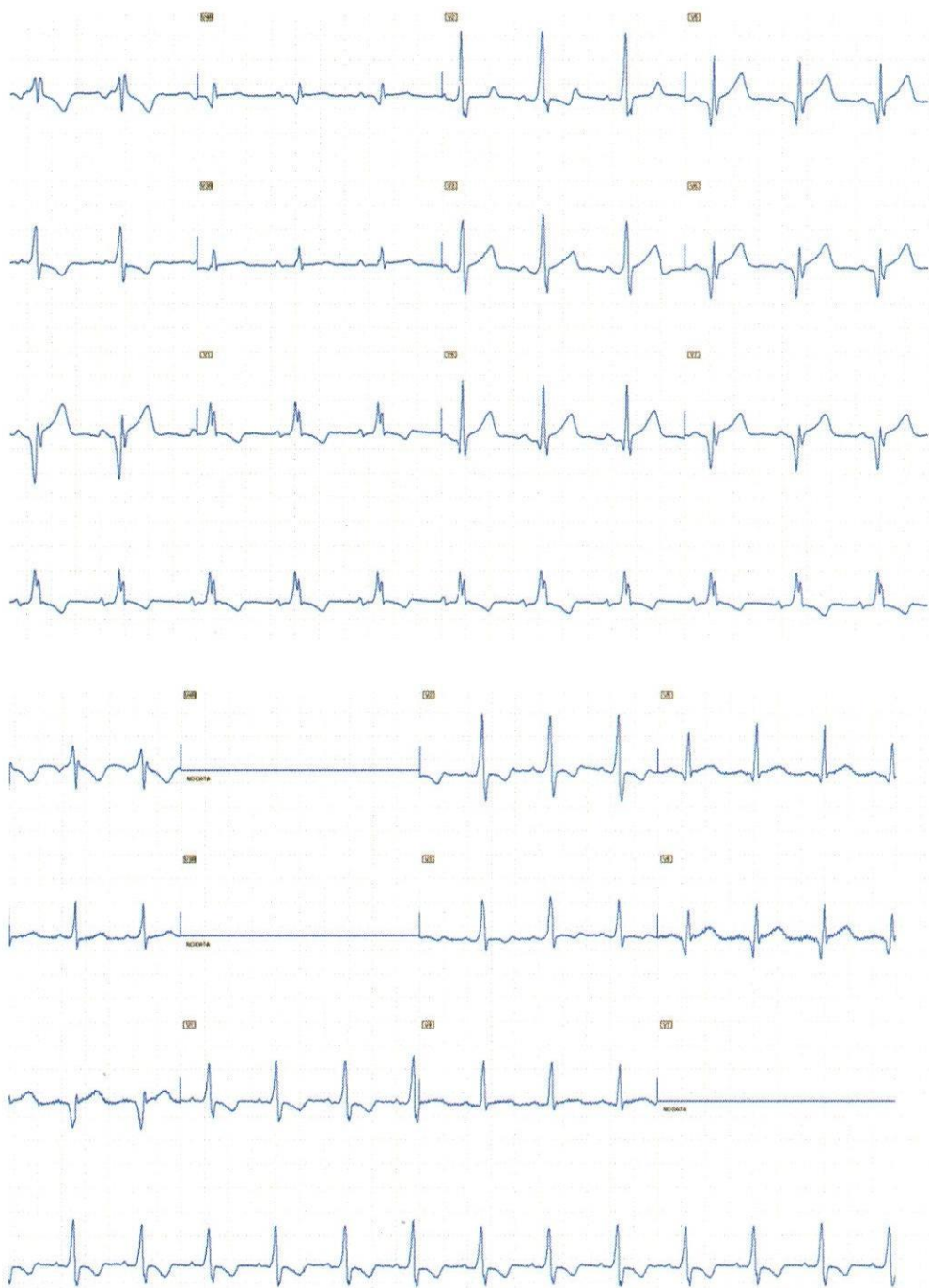
Pre-procedure ECG with negative delta waves in inferior and left lateral precordial leads is associated with longer case time and more arduous ablation. CS angiography can contribute to case success.



ry sinus angiograms in LAO projection of patients with left sided AP and deep Q waves. Inlay of x-y lesions applied at sites of success of corresponding left sided AP locations.



Figure 3. 3-D electroanatomical (CARTO 3 System) (left pane) and (right pane) projection of a case of patient with an abnormal 12-lead ECG constellation. Red and single green spheres each represent a separate ablation lesion along the left-sided AV groove. The ablation lesion is shown in the right pane.



A-C demonstrating 12-lead ECGs of set of patients with left-sided AP and abnormally deep Q waves in the inferior leads. Image D demonstrating 12-lead ECG of patient with left-sided AP and negative delta v, with absence of Q waves in inferior and lateral precordial leads.

Tables and Figures:

	Age (yrs)	Weight (kg)	Male Sex (%)	APERP (ms)	SPPCL (ms)	Time to loss of pre- excitation (sec)	Total lesions (#)	Total lesion time (sec)	Total case time (hrs)	Recurrence Rate	Test Lesions (#)	Consolidation Lesions (#)
Abnormal ECG	12.9	60.9	33.3%	300	290	7.0	14	550	3.3	33%	11	10
Left-sided AP	13.5	49.2	56.4%	320	320	2.9	6	240	2.1	2.0%	2	4
P-Value	0.8	0.7	0.6	0.4	0.1	0.004*	0.02*	0.02*	0.01*	0.09	0.08	0.3

Table 1: Baseline demographic information and evaluated accessory pathway data. Significant p-values

with text in red.