We report of an interatrial dissociation after two relatively limited left atrial ablations for paroxysmal atrial fibrillation (PAF), with sinus rhythm in the right atrium (RA) and ongoing atrial tachycardia in the left atrium (LA). Patients suffering from PAF are supposed to have less electrical and anatomical remodelling, however the role of surface electrocardiogram after complex left atrial arrhythmias’ ablation: behind electrical mechanisms

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We report of an interatrial dissociation after two relatively limited LA endocardial ablation procedures, performed in a 64-year-old woman for PAF since 1 year. The patient underwent a successful pulmonary vein isolation (PVI), and 3 months later she developed symptomatic persistent AF requiring a second ablation. The patient underwent a re-PVI and limited ablation of complex fractionated atrial electrograms in LA, including the coronary sinus (CS) region, but none septally. During ablation, AF converted into an organized AT, resulting in two consecutive left localized re-entries, both related to a slow conduction zone within spontaneous low voltage area. After ablation at the anterior wall, surface ECG showed a conversion into sinus rhythm, whereas intracardiac electrograms revealed complete electric inter-atrial (left to right atrium) dissociation (Figure, panel A). Sinus rhythm in the RA was recorded at the proximal CS catheter (CS ostium), while ongoing AT was recorded from the circular mapping catheter (left atrial appendage) and from the distal CS catheter (inferior perimtrial LA) (Figure, panel B). We performed an electrical cardioversion with restoration of sinus rhythm in both atria. During a 5-month follow-up the patient had no arrhythmia recurrences on Holter ECG monitoring. However, one might question the role of surface ECG regularly performed during her long term follow-up, since a recurrence of (only) left atrial arrhythmia would have been unrecognizable.

The full-length version of this report can be viewed at: http://www.escardio.org/publications/ep-case-reports/Documents/the%20role%20of%20surface.pdf.

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