

Radiofrequency ablation of left atrial appendage accessory pathway

Reza Mollazadeh* and Masoud Eslami

Cardiology department, Imam Khomeini hospital, Tehran University of Medical Sciences, Tehran, Iran

* Corresponding author. Tel: +98 9127334136; fax: +98 2166939537. E-mail address: mollazar@yahoo.com

A 47-year-old man was referred to our hospital due to recurrent episodes of narrow QRS complex tachycardia. Baseline electrocardiogram showed ventricular pre-excitation in favour of left-sided accessory pathway (AP), so we decided to perform radiofrequency (RF) mapping and ablation of AP. During the ventricular pacing and orthodromic atrioventricular reciprocating tachycardia, the earliest atrial signal was in the distal coronary sinus, but even at that area the ventricular and atrial signals were not fused together. High-power RF via transseptal and then retrograde approach failed to terminate the arrhythmia across the mitral annulus (even in the anterolateral of mitral valve ring), but RF application in the base of left atrial appendage (LAA) (Figure 1) terminated the arrhythmia and render the atrial activation sequence during ventricular pacing concentric.

The first complete and accurate delineation of AP, which was ablated in the LAA tip, was done by Di Biase *et al.* in 2010.¹ He presented four cases requiring ablation at the tip of the LAA after both endocardial and epicardial mapping and ablation failed. Mah *et al.*² described three young patients who had unsuccessful endocardial ablations, despite aggressive efforts and just dissection of the LAA from adjacent ventricular myocardium in the operating room by the cardiac surgeon led to loss of pre-excitation and no further tachycardia. Long *et al.*³ reported five patients whose AP was ablated at the base of LAA using the electro-anatomical mapping system (CARTO) after the failure of endocardial ablation.

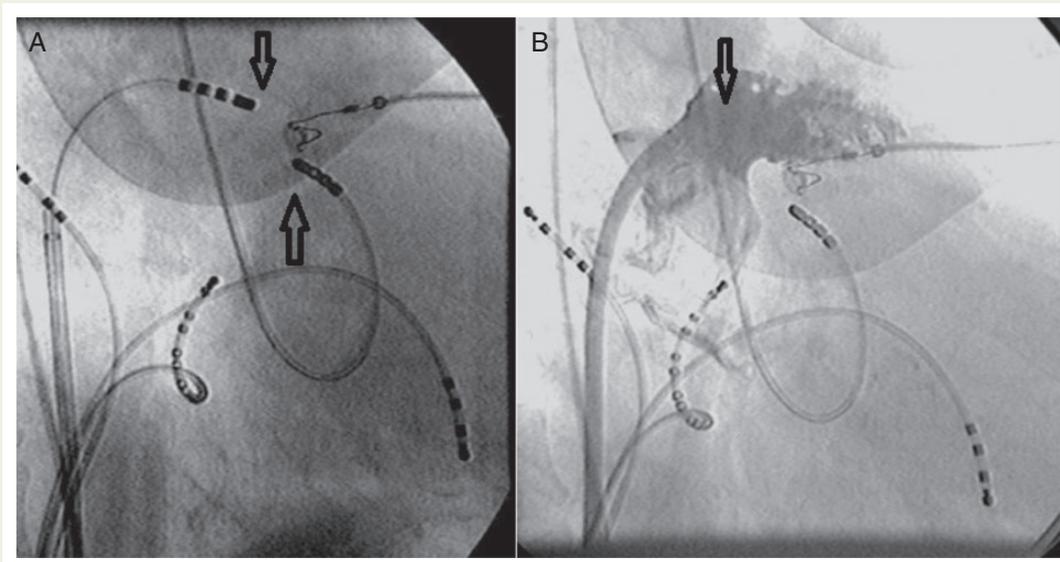


Figure 1 (A) The mapping catheter via the retrograde technique in the anterolateral of the mitral valve ring (upward arrow) and the ablation catheter via the septostomy sheath (downward arrow) in the LAA base at the successful site. (B) Contrast injection inside the sheath proves that the ablation catheter position (downward arrow) was at the base of LAA.

Although searching for the unusual sites of AP (e.g. LAA, left atrial roof) is usually performed when the conventional endocardial and epicardial RF fails, we did all the endocardial mapping in one session using conventional mapping system prior to proceeding to a more complex epicardial procedure or electro-anatomical mapping system.

Conflict of interest: none declared.

References

1. Di Biase L, Schweikert RA, Saliba WJ, Horton R, Hongo R, Beheiry S *et al.* Left atrial appendage tip: an unusual site of successful ablation after failed endocardial and epicardial mapping and ablation. *J Cardiovasc Electrophysiol* 2010;**21**:203–6.
2. Mah D, Miyake C, Clegg R, Collins KK, Cecchin K, Triedman JK *et al.* Epicardial left atrial appendage and biatrial appendage accessory pathways. *Heart Rhythm* 2010;**7**:1740–5.
3. Long DY, Dong JZ, Sang CH, Jiang CX, Tang RB, Yan Q *et al.* Ablation of left sided accessory pathways with atrial insertion away from the mitral annulus using an electro-anatomical mapping system. *J Cardiovasc Electrophysiol* 2013;**24**:788–92.