Catheter Ablation of a Concealed Accessory Pathway Between the Right Atrial Appendage and the Right Ventricle

To the Editor:

Catheter ablation has become the treatment of choice for symptomatic patients with accessory pathways (acP) that connect the atria and the ventricles. For the most part, these connected both cardiac chambers at the level of the atrial-ventricular rings, although occasionally they are located at a certain distance from these, in unexpected places and generally unexplored.

We present the case of a 34-year-old male with no structural cardiopathy, referred for an electrophysiological study due to a history of several years’ evolution of paroxysmal supraventricular tachycardia. The baseline ECG was normal. The study was carried out with 3 tetrapolar catheters for the His region, the right ventricle and the right atrium. The existence of ventricular pre-excitation was excluded. Ventricular stimulation revealed ventricular-atrial (VA) conduction, eccentric and not decremental, with earlier atrial activity in the high right, which indicated a concealed right acP. A multielectrode “deflectable” catheter was placed in the right atrium, to aid in the cartography of activation of the tricuspid ring (TR) and to localise the atrial insertion of the acP with greater precision, and it was observed that the earlier atrial activation was registered in the TR lateral position (bipole 3-4).

In a highly reproducible manner, an orthodromic tachycardia was induced (Figure 1A), with a cycle length of 323 ms, a septal AV interval of 106 ms and in lateral TR of 83 ms, with an atrial activation sequence identical to that obtained in sinus rhythm with ventricular stimulation. The active participation of the right acP in the orthodromic tachycardia was confirmed with tachycardia stimulation manoeuvres. For the ablation, a “deflectable” tetra-polar catheter 7 Fr (Marin®4 mm, Medtronic) was used, advancing
through a preformed introducer (Fast-Cath SR3®,
St. Jude Medical). During continued ventricular
stimulation, 9 failed radio frequency applications
were carried out (10-25 s; 60°; 55W) in the TR lateral
position, where earliest results were obtained with
respect to the earliest atriogram (TR 3-4), while never
over 10 ms and without local AV continuity. Faced
with these findings and the observation of great
concomitance of atrial activation in the electrode
pairs of the TR catheter,

we decided to map the right atrial appendage
(Figure 2), in the baseline, precocities over 50 ms and
local VA continuity were found, without observing
any acP potential (Figure 1B). Five application were
carried out in this region, the last of which (120 s;
50°; 30 W) managed to eliminate the acP conduction
to 10 s permanently and without complications.
The acP with atrial insertion in the atrial
appendage is due to epicardiac connections between
this and the adjacent ventricle, whether congenital or


Figure 1. A: electrocardiographic
derivations (II and V1) and intracavity
registers of activation in the tricuspid
ring (TR) (1-2 are the distal pair),
HIs and right ventricle (RV) of the
tachycardia. B: registers in the acP
ablation point during continued
stimulation from RV. ABL d, p: ablation
catheter, pair of distal and proximal
electrodes.

Figure 2. A: x-ray projection left an-
terior oblique (LAO) in the point of acP
ablation. B: x-ray projection right an-
terior oblique (RAO) in the point of acP
ablation. ABL, ablation catheter; TR, catheter for tricuspid ring mapping; RV, right ventricle catheter.
surgically created.\textsuperscript{1,2} The norm is, as occurred in this case, the absence of an acP potential in the ablation exit point, due to the fact that these pathways are a consequence of a direct connection between the atrial appendage and the ventricular myocardium. Ablation from the right atrial appendage usually requires its isolation with the applications of the atrial appendage that joins the ventricle, which usually obliges to use numerous applications.\textsuperscript{3} It could be necessary on occasion to use irrigated tip catheters due to the limited blood flow in the interface between the catheter and the atrial appendage trabeculated surface, or an epicardial, surgical or percutaneous approach.\textsuperscript{1,4}

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