

EP CASE REPORT

Ablating atrial tachycardia from the right pulmonary artery: a case report

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A 63-year-old man with paroxysmal atrial fibrillation and tachycardia was referred to catheter ablation. The procedure was performed under the guidance of CARTO3 mapping system. The moCool SmartTouch catheters were used for mapping and ablating. After bilateral circumferential pulmonary vein antrum isolation, there were still frequent episodes of non-sustained atrial tachycardia with irregular cycle length, exhibiting tall and narrow P waves in V1 as well as inferior leads. Activation mapping demonstrated a focal atrial tachycardia with the site of earliest activation located on the roof of the left atrium. Multiple applications failed to eliminate tachycardia, suggesting an epicardial origin. Cardiac computed tomography (CT) angiography showed that the proximal segment of the right pulmonary artery (PA) was close to the left atrial roof. When we manipulated

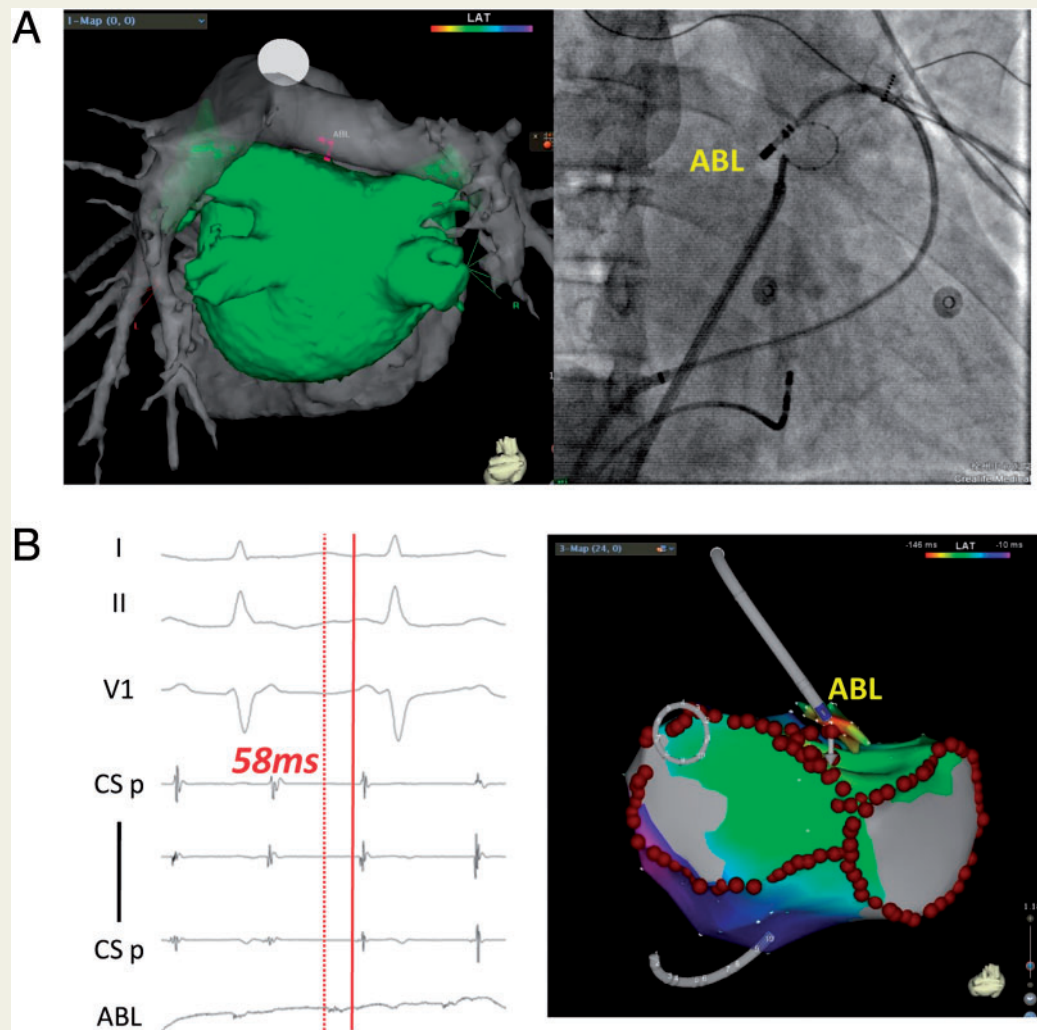


Figure 1 (A) The spatial-position between the pulmonary artery and the left atrium showed by computed tomography angiography (left), and radiographic views of the mapping catheter in the right pulmonary artery (right). (B) The Intracardiac recordings (left) and the location of the catheter displayed on CARTO system at the successful ablation site (right).

the mapping catheter to the proximal segment of the right PA with an inverted U shape (Figure 1A), a distinct atrial potential could be recorded. The local activation time at this site was earlier than that in the left atrial endocardium and preceded the onset of P wave by 58 ms (Figure 1B). Ablation (30 W, 90 s) eliminated the tachycardia successfully. There was no tachycardia recurring during a 30-min waiting period. Measurements from CARTO and the CT image showed that the successful ablation site was 6 mm from the left atrium and 15 mm from the bifurcation of PA, respectively. There were no intra- or post-procedural complications. Warfarin was used within the first 3 months. This patient has been followed up for 1 year without recurrence of atrial tachyarrhythmia.

Discussion

To our knowledge, this is the first report of ablating an atria tachycardia from the right PA. In a previous report, termination of atria tachycardia was obtained by ablation in the pulmonary trunk not far from the pulmonary valve.¹ In our patient, the right rather than the main PA was closer to the left atrium. Few studies have reported recording the left atria and Bachmann's bundle potentials from the right or left PA.² Concerning the characteristic of atria tachycardia and the anatomical location of successful target site in this case, we suspect that this atrial tachycardia may originate from Bachmann's bundle, which takes a subepicardial course.

Atrial arrhythmia sometimes can be ablated via percutaneous pericardial access. Manipulating the catheter in PA is more convenient. As for the safety of ablation in branch PA, we can find evidences from published studies on PA denervation to treat pulmonary arterial hypertension.³

Conflict of interest: none declared.

References

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