A 70-year-old man was referred to hospital with dyspnea. The 12-lead electrocardiogram showed an atrial tachycardia (AT) with 2:1 atrioventricular conduction. During the sustained AT, electroanatomical mapping was done. An activation map recorded during AT indicated a small reentrant tachycardia on the left atrial anterior wall (LAAW) near the mitral annulus in contact with the aortic root (Figure 1). A localized temporal gradient between the distal and proximal bipoles of the mapping catheter was recorded, and the activation duration was >80% of the tachycardia cycle length (Figure 2).

It is well known that the majority of ATs originating from the LA are observed following atrial fibrillation ablation.1-5 In the present case, a small reentrant AT was visualized in the aorta contiguity region. It was reported that the LA-aorta contiguity is responsible for the low voltage of the LAAW.6 The mechanism of voltage reduction was unknown; morphologic enlargement of LAAW is more extensive in LA remodeling,7 and its contact against the constantly pulsating rigid aorta may result in a low-voltage area. Therefore, this area may become the circuit, a source of arrhythmia and a target site of ablation.

To the best of our knowledge, this is the first report to clearly demonstrate an anatomical relationship for this new type of small reentrant AT.
Small Reentrant AT Adjacent to Left Aortic Sinus


Figure 2. Localized temporal gradient between the distal and proximal bipoles of the mapping catheter (arrows). ABL, ablation catheter; CS, coronary sinus; RA, right atrium.

References