LETTER TO THE EDITOR

Pulmonary vein box isolation is not enough to treat the non-paroxysmal atrial fibrillation: the full bi-atrial Cox-maze is the key

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I have read with great interest, the article by Kim et al. [1] and I congratulate the authors for this important work. However, there are a number of crucial points that need clarification. Since the seminal work by Haïssaguerre et al. [2], isolation of the pulmonary veins (PV) has been a fundamental part of all ablative procedures for atrial fibrillation (AF), regardless of its type. However, the triggers producing AF can be located not only inside the PV, but also in the left atrial antrum that contains these structures. Since the pathophysiological basis of paroxysmal and non-paroxysmal AF are totally different, the ablative approach for each should be correspondingly different [3]. When cases arise, such as those detailed by Kim et al. (1), it is more than evident that PV isolation, including the antrum, are not sufficient to treat non-paroxysmal AF successfully. Certainly, Voeller et al. have emphasized the importance of including the antrum as part of PV isolation. The overall freedom from AF at 3-month follow-up was higher in the box lesion isolation, than PV treatment alone (96% vs 85%, P = 0.028) [4]. Furthermore, the author has previously demonstrated that simple isolation of the PV and antrum, even by surgical means of cut-and-sew, is insufficient to treat non-paroxysmal AF. Indeed, the odds ratio for AF recurrence after simple isolation of PV and antrum was 1.41 (95% CI, 1.14–1.74), 2.17 (95% CI, 1.63–2.90), and 3.62 (95% CI, 2.44–5.38) at one week, 3 years and 5 years, respectively. The actual freedom from AF was 30% at 5 years [5]. Therefore, once AF has become non-paroxysmal, alongside the PV box isolation, additional ablative lines on both atria, as described by Cox [3], are absolutely necessary to obtain the best outcome.

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