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Left Atrial Appendectomy and Maze

The feasibility and effectiveness of specific linear left atrial (LA) lesions to treat atrial fibrillation (AF) were addressed by Kottkamp et al. (1) in a recent issue of the Journal. Interestingly, linear lesions confined to the left atrium were able to cure AF in more than 90% of cases, and the technique was feasible with a minimally invasive right mini-thoracotomy approach. Although the main objective of AF cure is the restoration of sinus rhythm, it should be emphasized that the most dreadful consequence of the disease is embolic cerebrovascular accidents (CVA). Atrial fibrillation is responsible for 20% of all strokes, and the risk of stroke is increased fivefold in nonhumetric AF and 17-fold in patients with mitral stenosis and AF (2).

The efficacy of systemic anticoagulation with warfarin to reduce the incidence of stroke has been demonstrated in randomized clinical trials, and the left atrial appendage (LAA) has been recognized as the source of more than 90% of emboli leading to CVA (3,4). Fifty percent of AF patients are age 75 or older, and it has been estimated that at least 20% have a contraindication to warfarin treatment (5). We believe that the importance of the LAA in the generation of embolic strokes should be addressed when a surgical approach to AF is contemplated and, therefore, we are concerned that the procedure proposed by Kottkamp et al. (1) may result in higher rate of CVA as compared to the classic maze approach, which includes LA appendectomy (6,7).

It has been demonstrated that the maze procedure is associated with three-year 100% freedom from thromboembolic complications as compared to 83% in the non-maze group (8). In the study by Kottkamp et al. (1) surgical ablation was associated with restoration of sinus rhythm and an increase in LAA flow velocity that could potentially release occult clots into the systemic circulation. Moreover, oral anticoagulant therapy was prescribed for at least 3 months, the mean follow-up limited to 18 months and the incidence of CVA not mentioned.

Consequently, we would like the investigators to share their long-term results on freedom from thromboembolism associated with the innovative approach proposed. A minimally invasive method for removing and/or occluding the LAA would provide a valuable strategy for preventing stroke in patients with AF. Both percutaneous LAA occlusion and thoracoscopic LAA amputation have been recently developed, although further studies are needed to confirm the safety and efficacy of these approaches (7,9).

Additional investigation is needed to determine whether LAA obliteration, which might have a potential clinical impact similar to carotidendarterectomy, is effective in preventing thromboembolism and whether it can be advocated as a "must" in the treatment of a selected population of patients with AF.

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REPLY

We would like to thank Dr. Bonanomi and colleagues for their interest in our work and for their thorough comments. The spectrum of patients with atrial fibrillation (AF) is very wide and varies from the 35-year-old manager with recurrent weekly paroxysms of AF resistant to antiarrhythmic drugs and severe symptoms to the 75-year-old man with hypertension and concomitant asymptomatic rate-controlled AF. Effective and safe treatment strategies are available for many patients, and these often consist of...