

CORRESPONDENCE

Letters to the Editor

WATCHMAN for Stroke Prevention: An Out-of-Date Procedure

With interest we read the article by Sick et al. (1) about the WATCHMAN left atrial appendage (LAA) system for stroke prevention in atrial fibrillation (AF). We have concerns about the rationale of this technique and questions about the results, which prompt us to challenge the authors' conclusion that LAA occlusion with the WATCHMAN system is safe and effective.

First, there is no evidence that thromboembolism in AF exclusively derives from LAA thrombi detected by transesophageal echocardiography (TEE). When prospectively investigating clinically stable outpatients with AF and no recent embolism by TEE, the prevalence of LAA thrombi was only 2.5%, and during a follow-up of 58 months, LAA thrombus did not predict stroke/embolism (2).

Second, the LAA has properties that render device implantation difficult and might impede patency of the occlusion. The LAA myocardium has a higher distensibility than the left atrial myocardium. This might induce oversizing of the device and lead to compression of neighboring structures like the circumflex branch of the left coronary artery (3). Progressive dilation of the LAA occurs in AF, possibly leading to undersizing of the device and leakage of a primarily completely closed LAA (3). Left atrial appendage–endocardial fibroelastosis, occurring frequently in AF, makes fixation of the device difficult. The LAA is a place of secretion of atrial natriuretic peptide (ANP) (3). Possibly, continuous ANP secretion into the LAA cavity even after closure might contribute to leakages.

Third, incomplete LAA closure creates a pouch with stagnant blood flow, which enhances thrombus formation and might necessitate oral anticoagulation (OAC), although this was the intention to prevent first. Thus, we cannot understand why WATCHMAN placement was assessed as “successful” even in cases with a jet <3 mm around the device. In how many patients were small jets visible after implantation? And did the width of the jets increase during follow-up? Were they associated with thrombus formation or embolism?

How many patients were screened altogether? What was the kind and frequency of exclusion criteria? The listed comorbidities are frequent in AF patients and would thus prompt OAC.

Were the patients investigated by a neurologist and cranial-computed tomography or magnetic resonance imaging to look for cerebral ischemia? Which was the indication for warfarin therapy in 8% of the patients at 6-month follow-up?

It is reported that embolized devices were retrieved percutaneously. In the meantime, embolization of a WATCHMAN device has been reported, which could be retrieved only by surgery, where it was removed from the aortic valve and an aortic bioprosthesis and a pacemaker had to be implanted (4).

Even if technical improvements would lead to a more effective LAA occlusion, potential further side effects have to be considered. The LAA plays an important role in hemodynamic and body fluid regulation (3). Left atrial appendage elimination might impede physiologic regulations of heart failure and thirst perception. The ANP contributes to physiological control of lipid mobilization in humans, whereas LAA elimination might promote development of obesity (5). In view of global warming and the obesity epidemic, LAA elimination has to be strongly questioned as a beneficial procedure for stroke prevention in AF patients living in the 21st century.

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doi:10.1016/j.jacc.2007.04.077

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Reply

Although we are pleased that Drs. Stöllberger and Finsterer read our article with interest, their letter titled “An Out-of-Date-Procedure” seems to be part of their series of editorials against left atrial appendage (LAA) occlusion, made particularly odd in this instance by the claim that use of these devices will contribute to the obesity epidemic and global warming. We are also puzzled by the characterization of this technology as “out of date,” considering that it is currently undergoing its first randomized prospective trial.

Drs. Stöllberger and Finsterer state that they are prompted “to challenge the authors' conclusion that LAA occlusion with the WATCHMAN system is safe and effective.” We are unable to find any allusion to “safe and effective” in our report (1). Claims for efficacy are not, as they might not be aware, designed into pilot trials. Indeed we were careful to state that the study was not