Atrial fibrillation is the most common arrhythmia in worldwide. The left atrial appendage morphology with long body and narrow base, blood stasis and atrial fibrillation increase thrombi formation. Cardioembolic strokes are 17.9-fold more frequent in non-valvular atrial fibrillation patients than those without atrial fibrillation. The efficacy of chronic anticoagulation therapy to prevent ischemic strokes in atrial fibrillation is well established. Adjusted-dose warfarin reduces stroke by 60% and death by 25% compared with no antithrombotic treatment. Introduction of NOACs agents has help to increase the proportion of atrial fibrillation patients receiving anticoagulant therapy. However, despite demonstrated efficacy and professional guideline recommendations, oral anticoagulation treatment rates in patients with atrial fibrillation are generally below 60%. Left atrial appendage occlusion has now become the most preferred method of choice for reducing the possibility of stroke in non-valvular atrial fibrillation, especially in cases in which oral anticoagulant therapy is contraindicated. It is well established the usefulness of the left atrial appendage removal in patients with rheumatic mitral valve disease and atrial fibrillation. Theoretically, removal of the left atrial appendage in patients with mitral valve disease in normal sinus rhythm could have several advantages, taking into account that 26% of mitral valve operations exhibits postoperative atrial fibrillation. Nevertheless, further randomized studies are needed to answer if LAA should be removed in all cases of MV surgery.

Oral anticoagulation (OAC) prevents stroke and improves all-cause survival in patients with atrial fibrillation while reducing the risk of thromboembolism by 64% and all-cause death by 26% with an acceptable increase in bleeding risk compared with no treatment [4]. Standardized absolute risk of stroke and for the intracranial bleeding outcome at 1 year after initiation of Vitamin K antagonist has been estimated in 2.01% and 0.60%, respectively [5]. On the other hand, taken into account the time with therapeutic range, it has been estimated that the average quality of anticoagulation is 60.5%, and a high percentage of patients have a quality of anticoagulation below recommended levels [6]. Non-vitamin K antagonist anticoagulants (NOACs) have emerged as another alternative for anticoagulation treatment in patients with non-valvular AF. Introduction of NOACs agents has help to increase the proportion of atrial fibrillation patients receiving anticoagulant therapy. Use of NOACs is rising rapidly and accounts for half of all anticoagulant used during AF. Indeed, rivaroxaban now accounts for half of all NOACs use in AF patients among this population[7]. However, despite demonstrated efficacy and professional guideline recommendations, OAC treatment rates in patients with AF are generally below 60% [8].

This leads, in turn, to problems that convey a lack of safety in terms of stroke risk. In a series reported by Hess et al. [9] untreated patients had a higher risk of death (adjusted hazard ratio (HR) 1.22, 95% CI 1.05-1.41), a lower bleeding risk (adjusted HR 0.35, 95%CI 0.15-0.81) and a nonsignificant trend toward higher risk of stroke/non-central nervous system embolism/transient ischemic attack than those treated (adjusted HR 1.18, 95% CI 0.91-1.54).

Against this background, LAA occlusion has now become the most preferred method of choice for reducing the possibility of stroke in non-valvular AF especially in cases in which OAC is contraindicated [10]. In fact, Briceno et al. [11] have demonstrated that NOACs is superior to warfarin for stroke prevention in non-valvular AF, as well as Watchman left atrial appendage occlusion device is a reasonable noninferior alternative to warfarin for stroke prevention.

However, nowadays there is a lack of exact data on the relationship between LAA and stroke in valvular AF. This may...
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Some of the advantages related to the LAA resection in MV surgery could be:

i. To prevent against further cardioembolic events AF-related, taking in mind that up to 24% of MV operations develop new postoperative AF [15].

ii. No need for long-term oral anticoagulation therapy in cases with MV repair or biological replacement, even when AF being present in the postoperative period. Alternatively, NOACs may become the only required therapy [16].

At glance, it would seem that LAA should always be removed in all cases of MV surgery, regardless preoperative cardiac rhythm. By contrast, Malduni et al. [17] have shown that LAA closure during routine cardiac surgery is significantly associated with an increased risk of early postoperative AF, but does not influence the risk of stroke or mortality. Yet further randomized studies are needed to answer if LAA should be removed in all cases of MV surgery.

References


