[10]. Nonetheless, the present study is the first to analyze whether statin pretreatment can improve surgical ablation outcomes after cardiac surgery. Our six-month follow-up data suggest that preoperative statin treatment improves early ablation outcomes independently of AF type. Interestingly, recurrence rate of AF peaked at discharge and three months after surgery, thereby underscoring the hypothesis that early recurrence of AF is not ultimately linked to failure of surgical ablation in patients with pre-procedural statin therapy.

Our regression model suggests that patients suffering from ischemic heart disease seem to be at higher risk for worse AF ablation outcomes since CABG turned out to be an independent predictor for AF recurrence. In accordance to our findings, in a study investigating patients undergoing heart surgery with ablation for AF, CAD turned out to be an independent predictor for AF recurrence. In accordance to our findings, in a study investigating patients undergoing heart surgery with ablation for AF, CAD turned out to be an independent predictor for AF recurrence.

The main limitation of this study is the prospective design with lack of randomisation and blinding making results susceptible to unmeasured covariates. Our study was unable to distinguish the underlying mechanisms for the observed surgery treatment effects. Although we tried to discover cofounders by multivariate regression analysis it may be argued that the inhomogeneous groups are inadequate to illuminate the effect of preoperative ablation treatment on surgical ablation outcome. However, neither type of surgery nor ablation technique were found to be independently predictive for the investigated clinical endpoints. In fact, we believe that this study might add evidence for the beneficial effects of statins in surgical ablation for AF with concomitant cardiac procedures that should be investigated further.

In conclusion, we demonstrate that statin pretreatment in patients undergoing cardiac surgery with concomitant surgical ablation for AF can improve short-term ablation outcome implicating a beneficial modulatory effect on early atrial structural and electrical remodeling.

References


eComment: Re: Statins improve surgical ablation outcomes for atrial fibrillation in patients undergoing concomitant cardiac surgery

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In the last few years, there has been an increasing interest on the impact of statins on the risk of new onset atrial fibrillation (AF) but the statin mechanism effect is not yet clear. Statins play a certain role at the moment as an additional pleiotropic action, including anti-inflammatory and anti-oxidative effects. It was shown that statins influence C-reactive protein’s concentration and that the new onset AF is correlated to the inflammatory process of the atria. Furthermore, statins can impact the autonomic nervous system.

The aim of the presented study [1] was to reveal the beneficial effects of statin pretreatment in patients undergoing open heart surgery for ischemic heart disease or valvular pathology and surgical ablation for AF. Maintenance of sinus rhythm after these procedures is considered to be a very important
factor for a good prognosis regarding morbidity, mortality and quality of life. The authors showed that statins used for more than 21 days before the operation reduced the risk of AF recurrence in comparison with the control group by 15% at discharge, by 21% three months after the operation and by 23% six months after the operation. The risk of all forms of AF recurrence was reduced. In this article, statin pretreatment was an independent predictor for sinus rhythm maintenance after operation along with well-known factors, such as a left atrium diameter of <5 cm and history of paroxysmal AF. The present study is the first to demonstrate beneficial effects of statins on the results of surgical on-pump ablation for AF. In this study, pretreatment with statin did not affect the level of inflammatory markers, such as C-reactive protein and leucocyte count. That could be related to the non-specificity of those parameters.

Accumulated data correspond to the results of other studies of statin pretreatment and its effect on the new onset AF in general and during the postoperative period. According to the results of a meta-analysis published in 2008, statin pretreatment was significantly associated with a reduction in the onset and recurrence of AF in patients undergoing heart operation or in acute coronary syndrome patients [2]. Published data suggest that statin intake before CABG and/or aortic valve replacement reduces the risk of new onset AF. Furthermore, the effective dose of statins should be not <20 mg [3].

According to the data of another meta-analysis published in 2008, in 31,725 patients undergoing cardiac surgery, statin pretreatment reduced the risk of new onset AF, the incidence of stroke as well as the mortality [4].

In conclusion, statins may prevent AF early after surgical ablation in patients undergoing concomitant open heart surgery. In this patients’ cohort the routine use of statins may be recommended. Additional studies are necessary to investigate the mechanisms of action of statins. The impact of statins on the sinus rhythm maintenance in other AF treatment methods, dosage and timing of drug utilization should also be investigated.

References


eComment: Are we cooking everything in the same pot?

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I have read this paper with great interest [1]. The use of statins has been suggested to protect against atrial fibrillation (AF) in some clinical observational and experimental studies but has remained inadequately explored.

The aim of this paper was to reveal the beneficial effects of statin pretreatment in patients undergoing open heart surgery for ischemic heart disease or valvular pathology and surgical ablation for AF. This study included different groups: CABG alone, CABG plus valve surgery, valve only, aortic, mitral, proximal AF, and persistent AF. In these groups of patients an ablation procedure was performed and the results studied. In all groups different mechanisms were present: ischemic etiology, rheumatic valve disease, mixed valve lesions and myocardial involvement.

According to the results of a meta-analysis published in 2008, statin pretreatment was significantly associated with a reduction in the onset and recurrence of AF in patients undergoing open heart surgery or in acute coronary syndrome patients [2].

As there are a lot of studies published on the different effects of statins, except on the effects of lipid lowering, I believe that we should be suspicious. We have to design the subgroups to get the correct answer.