
Atrial fibrillation after cardiac surgery

To the Editor,

Postoperative atrial fibrillation (POAF) is mostly seen rhythm disturbance after coronary bypass surgery. POAF prolongs hospital care and increases hospital cost. It is a good indicator of a patient's morbidity and mortality. Studies aiming to investigate the pathogenesis of POAF show that inflammatory reactions and oxidative stress are the most important factors for the development of POAF. Inflammation changes the atrial transmission pathway, activates reentry mechanisms, and precipitates the development of POAF (1, 2). We read with great interest the article by Aydın et al. (3) entitled "Efficiency of postoperative statin treatment for preventing new-onset postoperative atrial fibrillation in patients undergoing isolated coronary artery bypass grafting: A prospective randomized study" published in *Anatol J Cardiol* 2015; 15: 491-5. The authors concluded that postoperative statin therapy seemed to reduce AF development after coronary bypass surgery. They also stated that CRP levels significantly decreased in patients undergoing coronary bypass surgery with early postoperative statin therapy.

In the results of this study, CRP levels showed no significant differences between the statin and non-statin groups on postoperative days 1 and 7. However, there was significant difference between the AF and non-AF groups. On postoperative day 14, the CRP levels showed significant differences between the statin and non-statin groups. There was also a significant difference between the AF and non-AF groups (Table 4). Due to high inflammation during the intraoperative period (extracorporeal circulation, cardiac ischemia-reperfusion injury, and oxidative stress) and postoperative period (pulmonary infections and cardiac deficiency), the inflammatory activity and CRP levels reach its

highest value in the first postoperative week. Therefore, we mostly detect atrial fibrillation in this early postoperative period (4). After 1 week, surgery induced inflammatory activity decreases, and postoperative risk factors gradually disappear. We think that statin shows its effect in this early postoperative time interval or we need to see the effect of statin in this period. According to the results of this study, we can say that early postoperative statin therapy is not effective in reducing inflammatory activity and CRP levels on postoperative days 1 and 7. We can also say that CRP levels are significantly lower in the non-AF group than in the AF group on postoperative days 1, 7, and 14 and that CRP is an effective indicator for predicting AF.

As a result, oxidative stress after cardiac surgery and other problems in the postoperative period, such as pulmonary infections and cardiac deficiency, induce inflammatory reactions and increase inflammatory capacity. A high inflammatory capacity is related to a higher risk of POAF. Early postoperative statin therapy may be late or inadequate to detect the effect of statins on POAF. We think that further studies are needed that investigate a reduction in inflammation in the intraoperative and postoperative periods to prevent atrial fibrillation.

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