

Letters to Editor



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Rhythm Control for Post-Operative Atrial Fibrillation. Still A Promising Future?

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Abstract

Gillinov et al., (N Eng J Med. 2016; 374:20,1911-21) investigated the outcome of two strategies for managing post-operative atrial fibrillation (POAF) rate versus rhythm control. The trial was multicenter trial conducted in 23 centers in the US and Canada. The intervention for patients in the rate-control group was medications with a goal of HR <100b/m, where the rhythm-control group was treated with amiodarone \pm rate slowing agent, and electrical cardioversion was given if AF persisted for 24-48 hours after randomization. The trial end point was hospital length of stay (LOSHOSP) within 60 days after randomization. POAF occurred in 33% of patients. The LOSHOSP was similar in both groups (median, 5.1 for rate control days and 5.0 days for rhythm control group, respectively; P=0.76). The rates of death (P=0.64) or overall serious adverse events (24.8 per 100 patient-months in the rate-control group and 26.4 per 100 patient-months in the rhythm-control group, P=0.61), including thromboembolic and bleeding events did not show statistical significant differences. The authors concluded that both treatment strategies did not offer a clinical advantage over the other. We discussed how these results changed the working guidelines for managing POAF as the methodological limitations that underline the need for further investigations.

Summary

In the recently published guidelines for the management of atrial fibrillation (AF) rate control strategy for post-operative atrial fibrillation (POAF) plus anticoagulation was given level of evidence B, class II a.^[1] Moreover the Canadian Cardiovascular Society (CCS) Atrial Fibrillation (AF) Guidelines Committee recommended that POAF could be managed equally with rate or rhythm control strategies.^[2] Both guidelines changed in reference to a recently published randomized controlled trial by Gillinov et al., where the authors did not find significant difference in their primary and secondary end points, the former end point was the length of hospitalization within 60 days after randomization,^[3] the potential side effects of antiarrythmicss and cardioversion were beyond favoring this strategy over rhythm control. According to Mann et al., 2007 when AF causes life-threatening deterioration in hemodynamics, emergency cardioversion should be done, irrespective of the AF duration. Electrical cardioversion should also be considered also with hemodynamic instability that is not life threatening.^[4]

The guidlines mentioned that asymptomatic POAF would be managed with rate control as a first choice, however Gillinov, put similar preferences for rate and rhythm control, the authors ignored

Key Words

POAF, rate control, rhythm control.

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Amr Omar(a_s_omar@yahoo.com)Department of Cardiothoracic Surgery/ICU Section, Heart Hospital, Hamad Medical Corporation, Doha, (PO: 3050), Qatar. Tel: (+974) 44395897 Fax: (+974) 44395362 Email: a_s_omar@yahoo.com the results of hemodynamically unstable patients and did not define a protocol to exclude them, we noted that the authors of the mentioned trial did not mention anything about the symptoms.^{[1],[2]}

Gillinov, did not subdivide the patients according to post-operative cardiac dimensions and functions which could greatly influence the outcome, they also did not consider prior structural heart disease. There is recent data suggests that rhythm control would provide better outcomes in selected subgroups of heart failure patients.^[5] Moreover the atrium account for for 25% of end diastolic volume in, a minimum effect will be noted when AF develop, but marked reduction in the cardiac output observed in case of impairment of diastolic filling by mitral stenosis.^[6] The latter effects are more pronounced with tachycardia. Cessation of cardiac output in POAF referred to loss of atrial systole, augmentation of pulmonary capillary wedge pressure and increased valvular regurge.^[7]

Finally, Giilinov did not report any complication for electrical cardioversion and side effects of antiarrhythmic were not great as claimed in their hypothesis to support favoring rate control.

The trial recruited total of 2109 patients from 24 centers in the US and Canada, on average only 88 patients per center, with POAF incidence 33%. We believe that a larger extended trial that incorporate the cardiac output and functions parameters, excluding hemodynamically unstable patients, longer term follow up with subgroup analysis could come with some interesting results.

Conflict Of interests

Abdulaziz Alkulaifi is cheif cardiac surgery department , HMC **Disclosures**

None.

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To all remembers of CT surgery, Heart hospital, Hamad medical corporation.

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