

Abstract

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- **Introduction:** Atrial fibrillation (AF) is the most common arrhythmia to occur after cardiac surgery. An exaggerated systemic inflammatory response has been proposed to be one etiological factor.
- **Aim of the study:** This study was done to test whether perioperative intravenous corticosteroid administration -as a potent antiinflammatory- after cardiac surgery prevents AF.
- **Patients and methods:** The study involved 100 consecutive patients without prior AF who had done their first on-pump coronary artery bypass graft (CABG) surgery, aortic valve replacement (AVR), or combined CABG and AVR surgery from April 2009 to January 2010 in Cairo university hospitals and National Heart Institute. Patients were divided into two groups, group 1 (50 patients) who received 100-mg hydrocortisone in the evening of the operative day, then every 8 hours during the next 3 days and group 2 (50 patients) who did not given hydrocortisone. All patients received oral bisoprolol in dose titrated to heart rate. Main outcome measure was the occurrence of AF during the first 72 hours after cardiac surgery.
- **Results:** The incidence of postoperative AF was significantly lower in the hydrocortisone group (14/50 [28%]) than in the other group (24/50 [48%], despite incidence of DM was statistically significant higher in the hydrocortisone group (30/50 vs 20/50 patients, $P=0.046$). The hydrocortisone Group patients had 0.583 (95% CI 0.184 - 0.966) probabilities compared to other group patients to develop AF in the 1st three postoperative days; $P=0.039$). TLC was significantly lower in the hydrocortisone group than the other group during the first three postoperative days ($P<0.05$). Patients received hydrocortisone did not have higher rates of superficial or deep wound infections, or other major complications.
- **Conclusion:** Intravenous hydrocortisone was effective and safe in reducing the incidence of AF after cardiac surgery.

Key words:

Atrial fibrillation

AVR

CABG

Corticosteroids

Systemic inflammatory response