

One of the most prevalent arrhythmia after coronary artery bypass graft (CABG) surgery is Atrial-atrial fibrillation (AF) is the most common arrhythmia after coronary artery bypass graft (CABG) surgery [1]. It has been reported that the rate of The prevalence of AF occurrence following after CABG varies-ranges from 3% to 50% in different reports. Although AF it is a benign condition and does not increase the risk of mortality within 30 days after CABG and it is generally considered as a benign condition. However, a concern-concerns remain regarding due to its complications, including hemodynamic disturbances, palpitation, thromboembolism, and post surgical stroke-remains [2-3]. Complications can lead to longer, in turn, increase the length of postoperative stay period that will, and ultimately, increased-increase hospital costs [4-5]. ThereforeAs such, manynumerous attempts have been made to reducediminish the incidence of postoperative AF (POAF) occurrence [6]. There is no The-clear etiology attributed to of POAF prevalence after cardiac surgery is not completely elucidated [1]. However, but some riskseveral factors such as a history of AF, advanced age, concurrent coronary and valve surgery, history of congestive heart failure (CHF), chronic obstructive pulmonary disease (COPD), as well asand duration of cross clamp are thought-believed to increase the risk [7-9].

Among POAF risk factors, hypomagnesaemia-Hypomagnesaemia is one of the a well-documented- POAF risk factors. one. Since more than three decades ago, evidence has shown that From more than three decades ago, it was demonstrated that the total serum magnesium concentration is decreased during cardiac surgery with cardiopulmonary bypass (CPB) the total serum magnesium concentration decreases [10-12]., and Besides, there is a reduction in total serum level of magnesium in more than 80% of patients undergoing CABG, sustain a reduction in total serum level of magnesium. Thus, administering Magnesium-magnesium administration into patients who have undergoing-undergone cardiac surgery can lead to not only may reduce

~~reducing~~ POAF ~~incidence~~occurrence, but also ~~and produce~~producing a better myocardial outcome [4, 13].

~~Generally, Magnesium-magnesium~~ is ~~commonly~~ administered intravenously during perioperative period ~~for prevention of~~to prevent POAF, ~~with controversy~~ [13-16]. ~~It has been shown that routine~~Routine intravenous administration of magnesium has been shown to have no significant effect on serum magnesium concentration and as well as incidence~~occurrence~~ of perioperative arrhythmia after CABG surgery [17]. ~~On the other hand~~In contrast, using magnesium-free cardioplegia ~~may~~might result in postoperative low serum magnesium concentration which, and this was~~has been~~ found ~~to be~~as a risk factor for ~~the subsequent~~ development of a new postoperative AF [18]. Therefore, ~~addition of~~adding magnesium to the cardioplegic solution ~~may~~could be ~~beneficial~~helpful in such cases [18-20].