

Effect of Levosimendan Infusion 24 Hours Before CABG Surgery in Patients with Impaired Left Ventricular Function on the Need for Postoperative IABP

Abstract: Background: Due to their unfavorable outcome, patients with impaired left ventricular function undergoing CABG surgery (LVEF \leq 35%) are in a real need for optimization of their preoperative status in order to achieve the best possible results. In this retrospective comparative study we analysis our results in patients with impaired LV function after using Levosimendan as a continuous infusion 24 hours prior to CABG surgery regarding the need for postoperative IABP. Patients and methods: We included in this study 103 patients with LVEF \leq 35% that underwent coronary artery bypass grafting with or without repair of ischemic mitral regurgitation and received Levosimendan infusion 24 hours before surgery in the period between January 2016 and January 2019 in 2 hospitals (Group A). These data were compared to another matched control group of 98 patients with similar conditions that were operated in the same hospitals over a previous period of 3 years but received no Levosimendan infusion preoperatively (Group B). Results: There was a statistically significant difference in the postoperative results in favor of group A regarding the need for IABP application (P-value = 0.013). However there were no statistically significant differences between both groups in concern of duration of inotropic support (P-value = 0.40), duration of mechanical ventilation (P-value = 0.30), total ICU (P-value = 0.20) and hospital stays (P-value = 0.40), incidence of postoperative atrial fibrillation (P-value = 0.50), incidence of major adverse effects, and in-hospital mortality (P-value = 0.20). There was only one in-hospital mortality in each group. Conclusion: According to our study, infusion of Levosimendan 24 hours prior to CABG surgery in patients with impaired left ventricular contractility is safe and effective in reducing the need of IABP application. However Levosimendan infusion did not affect significantly postoperative course, incidence of major adverse effects, and in-hospital mortality.

Keywords: CABG Surgery, Levosimendan Infusion, Intra-aortic Balloon Counter-pulsation Pump