

البحث الخامس

Mitral valve replacement in mitral stenosis; The problem of small left ventricle

Abstract

Background: Mitral valve stenosis in adults especially due to rheumatic heart disease may be associated with a smaller than normal left ventricular cavity. Mitral valve replacement in such cases may lead to hemodynamic instability either during weaning from cardiopulmonary bypass or in the early postoperative period manifested by the need for inotropic support and even mortality due to low cardiac output syndrome.

Patients and methods: 184 patients with predominately severe stenotic mitral valves who underwent elective isolated mitral valve replacement in the period between January 2012 and January 2018 at our hospital were included in this study. Patients were divided into 2 matched groups; (small LV group) consisting of 86 cases and (normal or dilated LV group) consisting of 98 cases.

Results: There were no statistically significant differences in operative details among both groups apart from the need for inotropic support and intra-aortic balloon pump due to low cardiac output which were statistically significantly higher in (small LV group) than (normal or dilated LV group) with a p -values of 0.01 and 0.03 respectively. Within the ICU stay only the incidence of occurrence of heart failure was significantly higher in (small LV group) with a p -value of 0.008. No statistically significant difference could be elicited in the in-hospital mortality between both groups (p -value = 0.1).

Conclusion: Patients with mitral valve stenosis and small left ventricular cavity are in a higher need for inotropic and even mechanical support after mitral valve replacement as well as at a higher risk for the development of heart failure before hospital discharge than patients with mitral stenosis and normal-sized left ventricular cavity.

Keywords: Mitral stenosis, Mitral valve replacement, Small left ventricular cavity, Heart failure, Low cardiac output