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Thesis Title	echocardiographic assessment of RV systolic function early after on-pump coronary artery bypass grafting (CABG)
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Abstract	<p>Background : Decreased right ventricular function is a known echocardiographic finding after coronary artery bypass grafting (CABG) but the underlying mechanism leading to right ventricle impairment is still unknown. Suggested theories have been intraoperative Ischemia, intraoperative myocardial damage, cardioplegia and pericardial disruption. However, the assessment of right ventricle function is still technically difficult because of the complicated geometry of the right ventricle .</p> <p>Aim of study: To evaluate the early effect of on pump coronary artery bypass grafting surgery on the right ventricular systolic function by echocardiography and to detect if there is possible relation of the result to the number of diseased vessels , preoperative left ventricular dysfunction, bypass time, number of grafts and right coronary artery revascularization.</p> <p>Methods : We prospectively evaluated right ventricular systolic function via echocardiographic parameters before and early after coronary artery bypass grafting surgery. We also evaluated the effect of number of diseased vessels, left ventricular dysfunction pre operatively, bypass time, number of grafts and right coronary artery grafting in relation to post coronary artery bypass grafting right ventricular function. We performed baseline echocardiographic study in 38 patients before CABG and we repeated the study in those patients early (one week) after surgery. The right ventricle function was assessed using the magnitude of tricuspid annular plane systolic excursion (TAPSE) and tricuspid annular velocity (TAV or Sm) , all these measures were at the right ventricle free wall.</p> <p>Results : Our results showed that tricuspid annular plane systolic excursion and trans annular velocity were significantly reduced one week after coronary artery bypass grafting (2.14 vs. 1.2 cm , 12.8 vs. 9.05cm/s , p-value < 0.005) and found that 37 patients (97.4%) reached the degree of right ventricular dysfunction by tricuspid annular plane systolic excursion and 31 (81.6 %) by trans annular velocity methods . And we found that this impairment in right ventricular function is unrelated to preoperative left ventricular dysfunction (</p>

p-value for TAPSE was 0.11 and for TAV was 0.5) or to the number of diseased vessels (p-value for TAPSE was 0.68 and for TAV was 0.13) or bypass time(p-value was 0.08 for TAPSE and 0.38 for TAV) or to the number of grafts done (p-value was 0.52 for TAPSE and 0.36 for TAV) or to right coronary artery revascularization(p-value was 0.38 for TAPSE and 0.41 for TAV).

Conclusion : Right ventricular function significantly depressed early after coronary artery bypass grafting and there was no significant direct relationship between the preoperative left ventricular dysfunction or number of diseased vessels or operative parameters as bypass time or number of grafts or right coronary artery revascularization and the severity of decrement in right ventricular function after surgery.