1550073

Impact of Diastolic Dysfunction on the Development of Heart Failure in Diabetic Patients after Acute Myocardial infarction

Musallam, A; Hammerman, H; Agmon, Y; Mutlak, D; Aronson, D
Rmbam Medical Center, Haifa, Israel

Background: Diabetes is often associated with an abnormal diastolic function. However, there is no data regarding the contribution of diastolic dysfunction to the development of heart failure (HF) in diabetic patients after acute myocardial infarction (AMI).
Methods and Results: 1513 patients with AMI (417 diabetic) underwent echocardiographic examination during the index hospitalization. Severe diastolic dysfunction was defined as a restrictive filling pattern (RFP) based on E/A ratio >1.5 or deceleration time <130 msec. The primary endpoints of the study were readmission for HF and all-cause mortality.
The frequency of RFP was higher in patients with diabetes (20 vs. 14%; P=0.005). During a median follow up of 17 months (range, 8 to 39 months), 52 (12.5%) and 62 (5.7%) HF events occurred in patients with and without diabetes, respectively (P<0.001). There was a significant interaction between diabetes and RFP (P=0.04), such that HF events among diabetic patients occurred mainly in those with RFP (Figure). The adjusted hazard ratio for HF was 2.77 [95% CI 1.415.46“€ı] in diabetic patients with RFP and 1.21 [95% CI 0.751.55“€ı] in diabetic patients without RFP. A borderline interaction (P=0.059) was present with regard to mortality (adjusted hazard ratio 3.39 [95% CI 1.577.34“€ı] vs. 1.61 [95% CI 1.042.51“€ı] in diabetic patients with and without RFP, respectively).
Conclusion: Severe diastolic dysfunction is more common among diabetic patients after AMI and portends adverse outcome. HF and mortality in diabetic patients occur predominantly in those with concomitant RFP.