ABSTRACT

THE PROGNOSTIC VALUE OF DIABETES AND OF ACUTE HYPERGLYCEMIA IS DIFFERENT DURING THE IN-HOSPITAL AND CHRONIC PHASES AFTER MYOCARDIAL INFARCTION

José C. Nicolau, Felipe G. Lima, Marcelo Franken, Carlos V. Serrano Jr., Roberto R. Giraldez, Luciano M. Baracioli, Fernando Ganem, Caio F. Fernandes, Karin D. Campos, Thiago F. Pinto, José A.F. Ramires

Background: Diabetes (DM) and hyperglycemia are both powerful risk factors for pts with acute myocardial infarction (AMI). However, the relationship between them and their individual role during the in-hospital phase and in the long-term after hospital discharge are not clearly understood.

Methods: We analyzed retrospectively 1429 pts with AMI (mean age 64.5 ± 0.34 y.o., 72.5% men) treated in a single tertiary institution, included prospectively in a dedicated databank and followed for up to 11.7 years (mean survival time=8.7 years). Correlations with mortality were carried out utilizing the Chi-square/log-rank tests and logistical/Cox stepwise regression models as indicated.

Results: (1) In-hospital phase: Death rates for diabetics and non-diabetics were, respectively, 12.7% and 9.6% (P=0.08); by univariate logistic regression, glucose level (as continuous variable) at hospital arrival was highly correlated with mortality (P<0.001); putting together both variables in a multivariate model, the figures were P=0.74 for DM and P<0.001 for glucose level (GL); in the adjusted model with 15 baseline variables included, GL remained correlating significantly with mortality (P<0.001), along with age (P<0.001), ST-elevation AMI (P=0.03), and history of heart failure (P<0.001) and hypertension (P=0.005). (2) Long-term outcome: The mean survival time for non-diabetics and diabetics were, respectively, 9.02 and 7.88 years (P<0.001); GL showed a borderline correlation with mortality (P=0.046); with both variables in the same model, the figures were P= 0.001 for DM.
and \( P=0.75 \) for GL; in the multivariate model with all 15 variables included, history of DM remained correlating significantly with mortality \((P=0.022)\), along with age \((P<0.001)\) and history of previous AMI \((P<0.001)\), heart failure \((P=0.01)\) and stroke \((P=0.013)\). In a multivariate model excluding in-hospital deaths, DM remained correlating significantly with mortality \((P=0.041)\).

**Conclusions:** During the in-hospital phase the glucose level at hospital arrival is a better mortality predictor than DM; on the other hand, DM is a good mortality predictor in the long-term follow up after AMI, contrary to glucose level.