Prognostic value of serum creatinine in non-ST-elevation

Aziz Trichine, Hocine Foudal, Ilyes Bouaguel, Rachid Merghit
Hôpital Militaire de Constantine, Cardiologie, Constantine, Algérie

Introduction and objectives: Cardiovascular disease is the main cause of death in patients with kidney failure. Moreover, the presence of impaired renal function is an important prognostic factor in patients with heart disease, and is a determinant of outcome during follow-up. The main aim was to investigate the relationship between kidney failure at admission and one-year mortality in patients with Non-ST-elevation acute coronary syndrome.

Patients and methods: We studied 342 consecutive patients admitted in the military hospital of Constantine and Algiers. The serum creatinine level and glomerular filtration rate were determined at admission, and classical risk factors and biochemical markers were assessed. The primary endpoint was all cause mortality at one year.

Results: Patients who died were older, more frequently had a history of diabetes or coronary artery disease, were more likely to have heart failure at admission, had higher troponin-I, myoglobin and creatinine levels, and were less likely to have dyslipidemia or to be a smoker. Multivariate analysis showed that the independent predictors of allcause mortality at one year were age, diabetes, troponin-I level, Killip class >1, male gender, creatinine level, and glomerular filtration rate. There was a linear correlation between increased risk and creatinine level.

Conclusions: Creatinine level at admission is one of the most important covariates in early prognostic stratification in these patients. A high serum creatinine level (or a low glomerular filtration rate) increases the probability of death due to all causes. The serum creatinine level is, moreover, an inexpensive, easy-to-use, and widely available prognostic marker.


Aziz Trichine, Hocine Foudal, Ilyes Bouaguel, Rachid Merghit
Hôpital Militaire de Constantine, Cardiologie, Constantine, Algérie

Introduction and objectives: Recently we reported that prolongation of the corrected QT (CTc) interval in patients with non-ST-segment elevation acute coronary syndrome who do not exhibit early in 32% of patients. STEMI was diagnosed based on typical criteria: typical chest pain or ECG changes and rise in creatinin kinase in all patients. We excluded from the analysis all patients who died during the first 30 days. After early in 32% of patients. STEMI was diagnosed based on typical criteria: typical chest pain or ECG changes and rise in creatinin kinase in all patients. We concluded: This study shows that QTc prolongation is an independent predictor of cardiovascular risk in patients with non-ST-segment elevation acute coronary syndrome but without acute ischemic changes on admission ECG.

Predictive factors of long-term cardiovascular death and myocardial infarction after a first myocardial infarction: a 9.6-year follow-up study in Tunisia

Kais Ouerghi (1), Salem Abdessalem (2), Amani Kallel (2), Riadh Ben Jemaa (2), Rachid Mecheneche (2)
Centre Hospitalier de Saintes, Cardiologie, Saintes, France – (2) Hôpital la Rabta, Tunis, Tunisie

Introduction: Few studies have examined the incidence of the composite event cardiovascular death and/or myocardial infarction in long term in patients who presented with acute coronary syndrome with ST segment elevation (STEMI) treated with fibrinolysis or percutaneous angioplasty.

Methods: This is a prospective longitudinal trial held between August 1997 and September 2011 in La Rabta Hospital. Between August 1997 and August 2004, were randomly included 146 patients who had had a first non-fatal myocardial infarction non-fatal during the first 30 days. After a mean follow up of 9.6 years, we recorded the composite event cardiovascular death and/or myocardial infarction.

Results: The total number of patients who developed the composite event cardiovascular death and/or myocardial infarction was 34 (23.3%). The average time of occurrence of the composite event is 8.4±4.1 years. Some factors of the characteristics of the population were significantly associated with nonfatal myocardial infarction at 10 years in univariate analysis. Factors significantly predictive of the composite event cardiovascular death and/or myocardial infarction at 9.6 years in univariate analysis are the same factors predictive of cardiovascular death age (p=0.002), diabetes (p=0.01) and multivessel coronary disease (p=0.05). There is a tendency to correlation of the composite event at 9.6 years with history of hypertension (p=0.06). In multivariate analysis, independent factors predictive of the composite event, cardiovascular death and/or myocardial infarction are age >55 years (OR=53, 95% CI: 1.97, 36.96, p=0.004), diabetes (OR=4.3, 95% CI: 1.31, 14.15, p=0.016) and the anterior territory of the myocardial infarction (OR=5.5, 95% CI: 1.02, 29.66, p=0.047).

Conclusion: In our population predictors of the composite event cardiovascular death and/or myocardial infarction in the multivariate analysis were age, anterior territory of the infarction and diabetes. Better control and management could reduce the long-term mortality.

TIMI risk score predicts risk of death at ten-year follow-up in STEMI patients

Kais Ouerghi (1), Salem Abdessalem (2)
Centre Hospitalier de Saintes, Cardiologie, Saintes, France – (2) Hôpital la Rabta, Tunis, Tunisie

Background: TIMI Risk Score for ST-elevation myocardial infarction (STEMI) is a score designed for prediction of mortality occurring 30 days after a STEMI. It was validated in the literature at 1 years and 5 years after STEMI.

Aim: We applied the TIMI risk score to our cohort of STEMI patients treated in majority with fibrinolysis to validate the possibility to predict 10 years survival.

Methods: TIMI risk score was developed in a cohort of 146 male Tunisian (mean age 52±49 years) hospitalized during the period 1997 to 2004 with STEMI treated with fibrinolysis in 68 % of patients and non revascularised early in 32% of patients. STEMI was diagnosed based on typical criteria: chest pain or ECG changes and rise in creatinin kinase in all patients. We excluded from the analysis all patients who died during the first 30 days. After a mean follow up of 9.6 years, we recorded cardiovascular death. TIMI Risk Score for STEMI was calculated and they were divided into three groups: Low
risk (0–2 points), medium risk (3–7) and high risk (>7 points). Univariate analysis was used for statistical analysis.

Results: At the inclusion 94 (65.4%) of our patients had had a low risk (TIMI between 0 and 2), 48 patients (32.3%) had had an intermediate risk (TIMI between 3 and 7) and 4 (2.2%) had had a high risk (TIMI between 8 and 14). Median TIMI risk score was 2.3 (ranging from 0 to 11). During follow-up there were 18 deaths (12.3%). Mortality was 5.7% in the low risk group, 25.6% in the intermediate risk group and 0% in the high risk group. Mortality increased significantly with TIMI risk score in patient with TIMI score < 7 (p = 0.01). In patients with TIMI score > 8, our study did not allow us to draw any conclusions. We calculated Mortality predicted by corrected TIMI score (Mortality predicted at 1 year – Mortality predicted at 30 days). In patients with TIMI risk score < 7, Mortality at 10 years of follow up was 4.4 more important than corrected mortality predicted at 1 year.

Conclusions: TIMI Risk Score accurately defines the population of STEMI patients who are at high risk of death not only during the first 30 days, but also during 10 years of follow-up. This simple score should be included in the discharge letters because it contains very useful information for further care.

0065 Validation and recalculation of the Framingham’s score hard coronary heart disease in a coronary population
Kais Ouerghi (1), Amani Kallel (2), Salem Abdessalem (2), Riadh Ben Jemaa (2)
(1) Centre Hospitalier de Saintes, Cardiologie, Saintes, France – (2) CHU Dijon, Bocage Central, Cardiologie, Dijon, France

Purpose: The aim of the study was to Validate and to recalculate the Framingham’s score Hard coronary heart disease (HCHD score) in a coronary Tunisian population.

Methods: Baseline data were collected between 1997 and 2004 in 146 patients. We excluded from the analysis all patients who died during the first 30 days of hospitalization. Vital status was checked and causes of death were obtained in 2011 after a mean follow up of 9.6 years. We also noticed myocardial infarction during the same period. The expected incidence of the composite event cardiovascular death and/or myocardial infarction was calculated by applying the HCHD equation on the basis of the level of risk factors in diabetic and non-diabetic populations and was compared with the observed incidence of the composite event in each group. Correction factor was calculated for each group. For the risk thresholds 0% and that determined from the ROC curve of the HCHD score sensitivity, specificity values were calculated.

Results: The total number of patients who developed the composite event cardiovascular death and/or myocardial infarction was 34 (23.3%). The average of HCHD score in our population is 16.2 +/- 7.2% with a range from 2 to 30%. The HCHD score is significantly associated with cardiovascular death event and/or myocardial infarction in our population (p = 0.029). The correction factor score is 2 in diabetic group, 1.1 in non-diabetic groups and 1.4 for the total population. The relative risk of HCHD score is calculated to 1.5 for the composite event cardiovascular death and/or myocardial infarction at 10 years. For the risk threshold for 20% sensitivity was calculated at 41.1% and specificity at 76.7%.

Conclusion: HCHD score is validated in coronary male Tunisian patients with and recalibrated using correction factors. Validation on a larger population and multi-ethnic remains our future desire.

0132 Ischemic mitral regurgitation and non-ST-segment elevation acute myocardial infarction: long-term prognosis in Algerian cohort
Ilyes Bouaougl, Hocine Foudad, Rachid Merghit, Aziz Trichine
Hôpital Militaire de Constantine, Cardiologie, Constantine, Algérie

Introduction and objectives: Ischemic mitral regurgitation (MR) is a common complication of acute myocardial infarction and has a negative impact on prognosis. However, few studies have been carried out on MR after non-ST-segment elevation acute myocardial infarction (NSTEMI). Our objective was to investigate the incidence, clinical predictors, and long-term prognostic implications of MR in patients with NSTEMI.

Methods: The prospective study included 165 consecutive patients who were discharged in functional class I or II after a first NSTEMI. Each underwent echocardiography during the first week of admission, and patients were followed up clinically for a median of 2.3 years. The incidence of readmission for heart failure, unstable angina, reinfarction, death, or all combined (i.e., the combined event or major adverse cardiac event [MACE]) was recorded.

Results: The patients’ mean age was 68 years and 69% were male. The incidence of MR was 40% (grade I in 45 patients, grade II in 11, grade III in 7, and grade IV in 3). Age, diabetes mellitus, multivessel disease and MR (HR=2.17; 95% confidence interval, 1.30-3.64; P = 0.003) were all independently associated with a poor long-term prognosis, in terms of MACEs. Even the milder grades of MR were associated with more events.

Conclusions: In our milieu, MR frequently occurs after NSTEMI. Its presence together with other unfavorable factors implies a poor long-term prognosis. This is also true for milder grades of MR. Consequently, MR should be fully assessed and followed-up after NSTEMI in all patients.