Title

Glucoregulation in diabetic and no diabetic patients and the impact on early clinical outcome in patients with acute coronary syndrome

Aim of the study:

The aim of our study was to analyse the impact of glicoregulation before and during the hospital treatment in patients with acute coronary syndrome on early in-hospital clinical outcome (CE).

Methods:

We included in the analyse ACS patients (STEMI, NSTEMI, APNS) treated with PCI, in whom we analysed: demographics, risk profile, basic biochemical variables (Hgb, BUN, creatinine, Na, K), lipid profile (Tg, HDL, LDL Hol, lpa), HgbA1C, admitting glucose level and levels of glucose during the hospitalisation, and TIMI flow before and after PCI procedure. We divided patients in diabetics and non-diabetics. Than based on the level of HgbA1C measured at admition we subdivided diabetics in good (<6.5%), and bed controled (>6.5%) DM, and patients without previously known diabetes in three groups: no diabetics (<5.6%), prediabetics (5.6-6.5), and diabetics (>6.5) HgbA1C. Based on glycaemic levels we divided pts. in groups: good regulation (5-10mmol/L), bed regulation: >10mmol/L epizodes, and <5mmolL epizodes. We analized influence of glikoregulation on biochemical variables and lipide profile, PCI results (TIMI flow), and cardiac events (heart failure, shock, dysrhythmias, GIT bleeding, CVI and cardiac death).

Statistical analyse: descriptive and comparative statistics with t-test, Chi square test, uni and multivariate analyse. Significance determined at 0.05.

Results:

80 pts. Were included in the analyse (33.8% females and 66.2% males), at mean age of 60.2±10.8y. Risk profile: 51% had HTA, 6.3% HLP, 36.3% positive family history, 33.8% were diabetics, 61.4% smokers, 5% previous CAD. Mean Hgb 14.6±1.4mg/dl, BUN 5.9±3.2, creatinine 80.5±30.6 micromol/L, Na 137.5±3.4, K 4.2±0.5. No differences in biochemical and lipide profile was found between groups. Among 53 no diabetic patients prior to ACS, we identified 4 (5%) patients with diabetes (>6,5), and 18 (22.5%) with pre-diabetes (5.6-6.5%). Mean TIMI flow was 0.45±0.79 before, and 2.96±0.19 after PCI, r -.221, p 0.000. The single independent predictor in multivariate analyse (included HgbA1C, admitting glycaemic level, glucoregulation and diabetic group) on TIMI flow was admitting glycaemia (beta -.327, p 0.003). 12/80 pts. had CE, and again we included same variables and identified two independent predictors of CE: admitting glycaemic level (beta .386, p 0.007) and HgbA1C (beta .254, p 0.070).

Conclusion:

Acute coronary syndrome identified patients with previously no diagnosed diabetes. Stress glycaemia (admition glycaemic level) was found to be significant predictor of PCI results, and together with HgbA1C level of CE in ACS patients treated with PCI.