P3139 After an acute coronary syndrome: oral glucose tolerance test for all patients?

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Purpose: A significant proportion of patients with ischemic heart disease presents glucometabolic disturbance which manifests by impaired fasting glucose (IFG), impaired glucose tolerance (IGT) or diabetes mellitus. It is important to identify these patients because currently, either a change in lifestyle or drug therapy may be offered to the entire spectrum of glucose metabolism disorders. The aim of our study was to evaluate the prevalence of glucose metabolism disorders in patients admitted in our coronary unit with acute coronary syndrome (ACS) without previous DM and to determine the clinical and laboratory predictors of glucometabolic disturbances.
Methods: This was a prospective cohort study that included 110 patients admitted in a coronary unit between June 2008 and June 2009 with ACS. Exclusion criteria were previous DM, readmission during the study period and diagnosed DM during hospitalization. An oral glucose tolerance test (OGTT) was performed one month after discharge. We determined the prevalence of glucometabolic disorders and assessed if the clinical characteristics or blood glucose at admission were predictors of abnormal OGTT.
Results: The mean age of the population studied was 62 years old (± 12.69), mostly men (87%); 52% of patients were hospitalized with acute myocardial infarction with ST-segment elevation. The results of OGTT showed an increase in blood glucose levels in 40% of patients: 11.8% had IFG, 26.4% IGT and 11.8% DM (92.3% of patients fulfilled the criteria for DM only in the two-hour post-load plasma glucose); 64% of patients with disorders of glucose metabolism had normal fasting glucose values. The subset of patients with disorders of glucose metabolism had more patients with age over 75 years old (39.5% vs. 15.4%, p = 0.005) and higher waist circumference (79.1% vs. 57.1%, p = 0.019). The waist/hip ratio was greater in the subgroup with abnormal OGTT, although not statistically significant (97.4% vs. 86.9%, p for trend 0.72). No other feature, including blood glucose at admission, was predictive of abnormal OGTT.
Conclusions: About 40% of patients had abnormal OGTT, 64% of them fulfilled the criteria of glucometabolic disturbances only in the two-hour post-load plasma glucose level, making the OGTT fundamental in the screening for undiagnosed diabetes in the coronary disease patients. It is difficult by clinical evaluation and blood glucose at admission, even when high, to predict the presence of DM in an individual patient hospitalized with ACS.

P3140 Early detection of subclinical atherosclerosis in patients with type 1 diabetes and celiac disease

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Purpose: Previous studies have shown a high cardiovascular risk in patients with autoimmune diseases, such as rheumatoid arthritis and type 1 diabetes. Conversely, few and contrasting data are available about the development and progression of atherosclerosis in patients with celiac disease, a common condition frequently associated with type 1 diabetes. The aim of our study was to evaluate a well known marker of subclinical atherosclerosis and of cardiovascular risk, carotid Intima-Media Tickness (cIMT), in patients with type 1 diabetes (DM), with celiac disease (CD) or both (DM+CD) as compared with age- and sex-matched healthy individuals (H).
Methods: We enrolled 120 patients, 30 with DM alone (39±9 yrs, 50% male), 30 with CD alone (33±9 yrs, 43.3% male), 30 with both DM+CD (39±9 yrs, 40% male) and 30 H (34±4 yrs, 53.3% male). Clinical, metabolic and anthropometric data were collected. All DM patients were treated with insulin; all CD patients were following a gluten-free diet since 1 year. cIMT was evaluated by high frequency linear digital ultrasound. Data are presented as mean±SD.
Results: cIMT was significantly greater in patients with both DM+CD (0.60±0.18 mm) than in patients with either DM (0.47±0.10 mm, p<0.001) or CD (0.47±0.15 mm, p<0.001), while no difference was found between DM and CD. Moreover, CD had greater cIMT values than H (0.47±0.15 mm vs 0.31±0.08 mm, p<0.001). There were not significant differences in metabolic control and disease duration between DM+CD and DM. Also, metabolic (lipidic patterns) and anthropometric (BMI, Waist/hip ratio) parameters were similar among groups. At multivariate logistic regression analysis, only age was significantly correlated with cIMT (p=0.045; Adjusted Rsqr = 0.375). Notably, for each age considered, the risk profile was always higher in DM+CD [cIMT = 0,249+(0,0094*Age)] than in CD patients [cIMT = 0,153+(0,0096*Age)], and in CD patients than in H [cIMT = 0,142+(0,0050*Age)].
Conclusions: Our study demonstrates that patients with CD have greater cIMT, a recognized marker of subclinical atherosclerosis, as compared with healthy individuals. Thus, non-invasive monitoring of cIMT in celiac patients for the detection of early vascular lesions might be of value in preventing cardiovascular disease. Moreover, patients with both conditions, type 1 DM and CD, show more severe subclinical atherosclerosis as compared with those presenting only DM or CD, suggesting that the association of two autoimmune diseases might accelerate the atherosclerotic process. Further larger studies are needed to confirm our results.

P3141 Relation between aortic knob calcium observed by simple chest x-ray or fluoroscopy and plaque components in patients with diabetes mellitus

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Background: We used virtual histology-intravascular ultrasound (VH-IVUS) to evaluate the relation between aortic knob calcium (AKC) and the plaque components in diabetic patients.
Methods: The presence of AKC was assessed via posteroanterior view of chest X-ray or fluoroscopy at the time of coronary angiogram. A total of 137 de novo coronary culprit lesions in 137 consecutive diabetic patients were studied and coronary plaque components were analyzed using VH-IVUS according to the presence (n=45)/absence (n=92) of AKC.
Results: Patients with AKC were significantly older (68±8 yrs vs. 62±9 yrs, p<0.001) and had significantly higher high-sensitivity C-reactive protein levels (1.97±1.33 mg/dl vs. 0.48±1.35 mg/dl, p=0.005) compared with patients without AKC. The absolute and %necrotic core (NC) volumes (30±26 mm^3 vs. 20±19 mm^3, p=0.003, and 23.4±10.3% vs. 17.4±8.9%, p=0.005, respectively) and the absolute and %dense calcium (DC) volumes (17±12 mm^3 vs. 11±12 mm^3, p=0.010, and 13.3±7.3% vs. 9.6±7.9%, p=0.011, respectively) were significantly greater in lesions with AKC compared with those without AKC. Multivariable analysis showed that age [Odds ratio (OR); 1.233, 95% CI = 1.121-1.355, p<0.001], high-sensitivity C-reactive protein (OR; 1.871, 95% CI = 1.090-2.943, p=0.007), absolute DC volume (OR; 1.020, 95% CI = 1.050-1.178, p=0.003), and absolute NC volume (OR; 1.026, 95% CI = 1.057-1.199, p<0.001) were the independent predictors of AKC.
Conclusion: Diabetic patients with AKC were older, had greater NC and DC-containing plaques, and higher inflammatory status compared with diabetic patients without AKC.

P3142 Impaired glucose metabolism is an underestimated risk factor in patients undergoing PCI

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Background: Patients with coronary artery disease and abnormal glucose regulation are at high risk for subsequent cardiovascular events. We have set out to determine the impact of performing a comprehensive glucometabolic assessment in patients undergoing a percutaneous coronary intervention.
Methods: 300 unselected PCI patients were enrolled in this prospective single centre study. In both stable and acute subjects, assessment was done on the day of discharge and included a fasting glucose and insulin, and a oral glucose tolerance test (OGTT). Impaired Fasting Glucose (IFG, 100 -125 mg/dL), Impaired Glucose Tolerance (IGT, OGTT 140-200mg/dL) and new diabetes (≥126 mg/dL or OGTT ≥200 mg/dL), and insulin resistance, expressed as Homeostasis Model Assessment (HOMA) was determined. Cardiovascular (CV) events including CV death, myocardial infarction, stroke and revascularization were prospectively assessed.
Results: Of the 300 subjects (age 66±10y), 25% were female and 53% underwent PCI for an acute coronary syndrome. Although only 17% of subjects were previously diagnosed with diabetes, 13 patients were newly diagnosed with diabetes and 38% of subjects had at least one criterion for impaired glucometabolic state (table 1). New diabetes was more often diagnosed after an ACS (P=0.07). During a median follow-up of 2.1 years (1.6-2.4), we observed a trend towards less favorable event-free survival with impaired glucose metabolism in elective but not acute patients (log-rank P=0.051 and 0.191, respectively).

N (%)	All (n=300)	ACS (n=160)	No ACS (n=140)
Diabetes	50 (17)	25 (16)	25 (18)
New diabetes	13 (4)	10 (6)	3 (2)
IGT and IFG	28 (9)	12 (7)	16 (11)
IFG	27 (9)	15 (9)	12 (9)
IGT	61 (20)	36 (22)	25 (18)
Normal	121 (40)	62 (39)	59 (42)

Conclusions: In a real-world PCI population, only 4 out of 10 subjects had a normal glucose metabolism, indicating a large and unrecognized burden of risk in this population. This underscores the importance of glucometabolic assessment in clinical practice, and indicates opportunities for early detection and management of impaired glucose metabolism.