Materials and Methods: MS was defined according to the criteria of the International Diabetes Federation (IDF). We analyzed the following metabolic parameters: levels of oxLDL (ELISA), PAI-1 (photometric method), plasma insulin (PI) levels (RIA method). Insulin resistance (IR) was defined using the homeostasis model (HOMA-IR). Total cholesterol (h), HDL-h, h-LDL and triglycerides (Tg) (enzymatic method). In this study we included 32 patients with T2D and MS (group A), 14 patients with T2D without MS (group B), 10 nondiabetic patients with MS (group C) and 15 nondiabetic patients without MS (group D).

Results: OxLDL level are significantly higher in group A vs group B (113.5 +/-8.8 U / L vs 109.6 +/- U / L, p <0.05), as well as in group C vs group D (108.4 +/-5.2 U / L vs 97.6 +/- U / L, p <0.05). We found no difference in the level of other lipid parameters comparing groups A and B, as well as groups C and D. Also, levels of PAI-1 are significantly higher in group A vs B (4.6 +/-0.5 mg/mL vs 3.2 +/-0.3 mg/mL, p <0.05), as well as in groups C vs D (5.5 +/-0.7 mg/mL vs 3.1 +/-0.4 mg/mL, p <0.05). At the same time, in T2D and nondiabetic patients, the group with MS had significantly higher levels of HOMA. The observed elevated levels of oxLDL in patients with T2D correlate with the level of Tg/HDL ratio as an indicator of the presence of small dense LDL particles, whereas the level of PAI-1 levels correlated with HOMA.

Conclusions: Our results indicate that in patients with T2D and MS there is significant impairment of lipid peroxidation, which may affect the structural changes of LDL, while observed fibrinolysis disorders could be induced by increasing insulin resistance in these patients.

OP12: Association between retinopathy and early echographic markers of cardiomyopathy in type 2 diabetes

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Background and aims: Alterations in cardiac structure and function occur in type 2 diabetes independently of coronary artery disease or hypertension. The underlying mechanisms remain unclear. The aim of our study was to explore the putative involvement of microangiopathy in the determination of cardiac myocardiopathy.

Materials and Methods: 387 patients with type 2 diabetes mellitus (D2) with controlled blood pressure and without overt valvular or coronary heart disease were prospectively enrolled. All subjects underwent comprehensive echocardiography, including evaluation of diastolic and systolic LV function by conventional assessment and use of speckle-tracking imaging. Diastolic dysfunction was defined by left atrium area (adjusted for body surface area) > 11 cm²/m² and/or lateral E' <10 and preclinical systolic dysfunction was defined by longitudinal strain >-18%.

Diabetic retinopathy assessed by ETDRS criteria was graded in 3 stages 0: no retinopathy, 1: mild non proliferative retinopathy, 2: moderate, severe non proliferative and proliferative retinopathy.

Results: 191(57.2%) patients exhibited diastolic dysfunction vs 143 (42.8%) who had no dysfunction. By univariate analysis: diastolic dysfunction was associated with diabetic retinopathy (p=0.01), additionally these patients were more likely to be female (M/F 95/96 vs 88/55, p=0.02), younger age (MF 59/51 vs 48/57, p=0.04) and to have obesity BMI (31.5±5 vs30±4, p<0.02), and a lower body blood glucose control: HbA1c (7.9±1.5 vs 7.6±1.4, p=0.046) and had higher SPB (systolic blood pressure) (136±15 vs 131±16, p=0.001). Microalbuminuria was not different in both groups, p=0.3.

83 (26%) patients only had systolic dysfunction vs 236 (74%) who had both. On univariable analysis: presence of subclinical LV systolic dysfunction in diabetic patients was associated with a higher prevalence of diabetic retinopathy (p =0.04), additionally these patients were more likely to be male (M/F 58/32 vs 125/118, p=0.03), to have obesity BMI (31.5±5 vs30±4, p=0.02), with higher SPB (138±15 vs 132±16, p=0.001), and lower HDL (1.2±0.3 vs 1.3±0.4, p=0.03). Microalbuminuria was not different in both groups, p=0.3.

By multivariable analysis, factors independently associated with diabetic dysfunction were age (OR95%:1.09 [1.05-1.12], p<0.001) and retinopathy stage (OR =1.45 [1.01-2.08], p = .04) whereas factors independently associated with systolic dysfunction were gender (M vs F OR=2.09[1.18-3.71],p=0.01), BMI (OR=1.07 [1.07-1.18],p=0.03) and SBP (OR=1.30 [1.09-1.54],p=0.004).

Conclusion: In our cohort of type 2 diabetic patients, only retinopathy was found associated with the commonly reported diastolic dysfunction whereas retinopathy was not found independently associated with systolic dysfunction.

OP13: The effect of poly(ADP-ribose)polymerase inhibitors on diabetes-induced heart dysfunctions

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Background and aims: Incidence of cardiovascular (CV) events is increased in type 2 diabetes (T2D) but the potential for CV risk modulation with glucose lowering is debated. Linagliptin, a DPP-4