

Exocrine pancreatic function in patients with type 2 diabetes mellitus with different phenotype

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Background: Type 2 diabetes mellitus (T2DM) has been described as a cause of pancreatic exocrine insufficiency (PEI). The role of obesity in this patients are discussed.

Aims: To analyze the exocrine pancreatic function in patients with T2DM with different phenotype using pancreatic elastase-1 in stool (PE-1).

Patients & methods: The study was performed on 62 patients with T2DM; control group (n=20). Patients were divided into 2 groups: 1 group (n=20) – T2DM with BMI < 25.0 kg/m², 2 group (n=42) – T2DM with BMI > 25.0 kg/m². For diagnosis of PEI we used PE-1 (normal value > 200 mcg/g).

Results: BMI in patients of 2 group was significant higher than in 1 group and control group (32.8±0.8 vs 22.4±0.25 and 21.75±0.2 kg/m², p<0.05). PE-1 levels were below the cutoff value in 56 cases (90%). 15 of them (26.8%) had level < 100 mcg/g. We revealed 1.6-fold decrease in PE-1 in patients of 2 group (126.7±7.5 mcg/g) and 1.4-fold decrease in patients of 1 group (141.3±5.88 mcg/g) compared to control group (204.9±0.99 mcg/g) (p<0.05). There were correlation between elastase-1 and BMI in both groups (in 1 group r=-0.61; in 2 group r=-0.47, p<0.05).

Conclusion: More than 90% of patients with T2DM had exocrine pancreatic function test altered. The greatest changes were found in patients with higher BMI. Higher BMI is an optional factor of progressive PEI, thereby complicated the course of T2DM.