Correlation of endocrine and exocrine pancreatic functions in diabetes mellitus type 2 patients: the effect of GLP-1 receptor agonist and DPP-4 inhibitor treatment

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SUMMARY

Background: A strong positive correlation between pancreatic endocrine and exocrine function has previously been described in chronic pancreatitis. Here, we examined this correlation in diabetes mellitus type 2 patients treated with recently introduced monoclonal antibodies targeting the GLP-1 receptor agonist and the DPP-4 inhibitor liraglutide.

Methods: The study group included 39 subjects with type 2 diabetes mellitus treated with metformin and randomized to 1 month of treatment with liraglutide (3 mg/kg body weight) once daily and 3 months of treatment with placebo. Haematology, biochemistry of exocrine function (glucose) and serum concentration of insulin, C-peptide, and proinsulin were measured before and after 1 and 3 months of treatment. The results were statistically analysed by Student’s t-test and linear regression analysis (by one-way ANOVA or Pearson rank correlation, alternatively) using SPSS software.

Results: In the whole group a significant correlation of 

**H**<sub>α</sub><sup>b</sup> and C-peptide levels were highly significantly correlated (p = 0.002, r = 0.407, r = 0.008, r = 0.009) in groups treated with exenatide (p = 0.002, r = 0.009, r = 0.008, r = 0.009) for the analysis of the effects of exenatide on the correlation of **H**<sub>α</sub><sup>b</sup> and C-peptide levels were highly significantly correlated (p = 0.002, r = 0.008, r = 0.009).

EXOCINERE/ENDOCRINE PANCREATIC TESTS

DM2 therapy before therapy 1096 52.5 54.6 2216 0.008 0.076 0.007 0.003 0.007 0.007

Scatterplot of C-peptide values to **H**<sub>α</sub> mixed triglyceride breath test values in group of 13 subjects with type 2 diabetes mellitus before liraglutide treatment in group treated with liraglutide (p = 0.002, r = 0.009, r = 0.008, r = 0.009) for the analysis of the effects of exenatide on the correlation of **H**<sub>α</sub><sup>b</sup> and C-peptide levels were highly significantly correlated (p = 0.002, r = 0.008, r = 0.009).

**REFERENCES**
