

Nonglycemic effects of incretins in patients with long history diabetes type 1 and chronic kidney disease

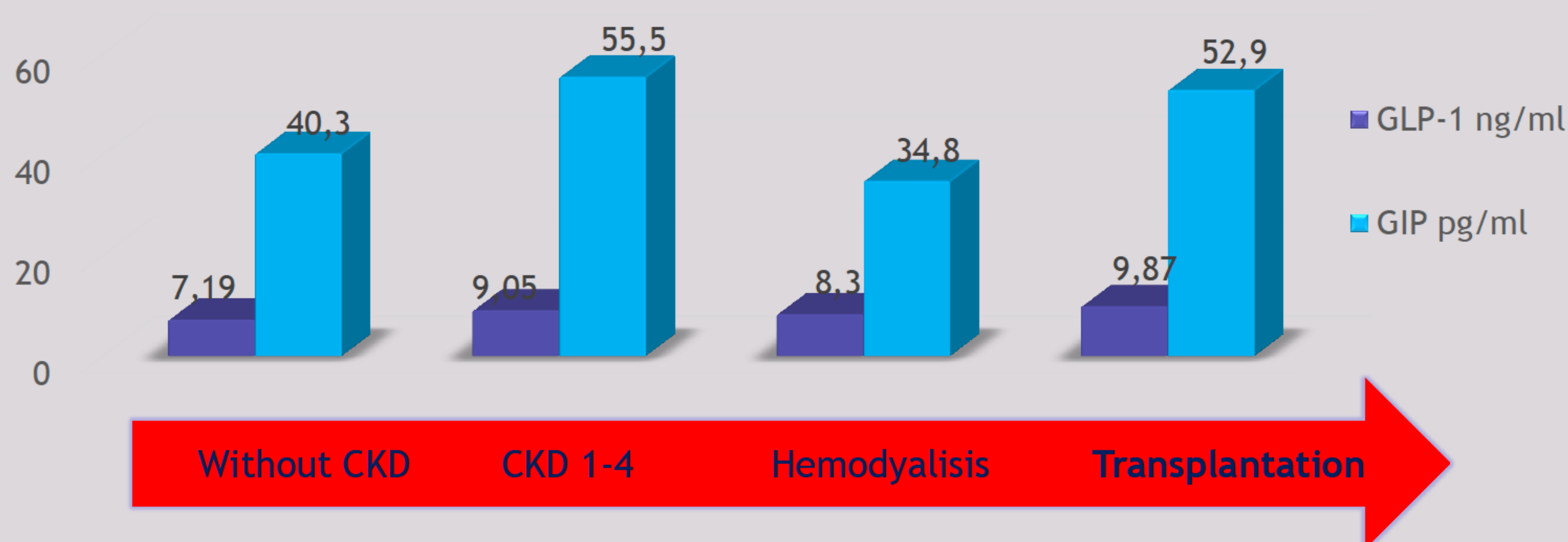
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Aims: To estimate the nonglycemic effects of incretins in patients with long history of type 1 diabetes (T1D) and chronic kidney disease (CKD).

Materials and methods: We investigated 75 patients with a long history T1D (more than 20 years) and CKD on the different stages: 32 patients with CKD at the stage 1-4, 17 patients on hemodialysis, 11 with kidney transplantation and 15 patients without CKD. In addition to routine methods of investigation we have estimated mineral and bone disorders (MBD) factors (phosphorus (P), phosphorus and calcium product (PxCa) parathormone (PTH), 25(OH)vitamin D (vitamin D), fibroblast growth factor 23 (FGF 23)), made a multispiral computed tomography of heart with Agatston index definition. Markers of proinflammatory (monocyte chemoattractant protein-1 (MCP-1), C-reactive protein (CRP)), fibrosis (Transforming growth factor-beta (TGF-beta)) and cardiovascular collapse (atrial natriuretic peptide (NTpro-BNP)), were defined. Determining the level of glucagon-like peptide-1 (GLP-1) and glucose-dependent insulintropic polypeptide (GIP).

Results: The study showed no difference in the level of GLP-1 and GIP in patients with a long history of T1D, regardless of the presence and stage of CKD and the degree of compensation of diabetes (pic1)

(pic.1) Level of GLP-1 and GIP in patients T1D without/with CKD



Received confirmation inverse relationship between:

- ✓ **GLP-1** and the level of **total cholesterol** ($r=-0,320;p<0,05$), **Agatston index** ($r=-0,317;p<0,05$),
- ✓ **GIP** and **FGF-23** ($r=-0,341;p<0,05$), **proinflammatory markers: fibrinogen** ($r = -0,264; p <0,05$) and **CRP** ($r = -0,626; p <0,05$), but in relation to the **MCP-1** - positive ($r = 0,277; p <0,05$).

Conclusions: In patients with T1D is defined inhibitory role of incretins in the progression of atherosclerosis and MBD, actively involved in the development of cardiovascular disease, irrespective of the stage of CKD. The obtained data require further study from the standpoint of application nonglycemic effects of drugs of incretins in the treatment of patients with T1D.