EFFICACY AND SAFETY OF LIRAGLUTIDE IN OVERWEIGHT DIABETIC PATIENTS WITH STAGE 3 NEPHROPATHY

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INTRODUCTION AND OBJETIVES:
Chronic kidney disease (CKD) often limits treatment options in patiens with type 2 diabetes mellitus (T2DM). Few previous publications evaluated liraglutide treatment in the population with stage 3 chronic nephropathy, with an estimated glomerular filtration rate (eGFR) between 59 and 30 ml/min/1.73 m^2 (CKD-EPI formula). We want to evaluate the efficacy and safety of liraglutide in the treatment of overweight T2DM patients with stage 3 CKD. To improve their glycemic control, to decrease their body mass index (BMI), and to reduce hypoglycemic episodes by removing the aspartic insulin.

METHODS:
This study included 20 diabetic patients with stage 3 chronic nephropathy, HbA1c > 7-10 % and BMI> 30 Kg/m^2; 25% of them had previous cardiovascular disease, 35% had diabetic retinopathy and 35,2% had baseline albuminuria. All of them received IECA or ARAII medication. We initiated liraglutide at 0.6 mg/day and we increased to 1.2 mg/day after one week. Basal data: Age: 69 ± 8,5 years; Women/Men: 4/13; Years of Diabetes: 17,75±6,34; Charlson Index: 7,15±1,22

RESULTS:
We present a descriptive analysis of patients treated with liraglutide, basal and after 28 weeks (Table 1). We achieved a significant reducion of their BMI and we improved their glycemic control. We discontinued their previous oral antidabetic medication and 92,8% of the aspartic insulin needs. Liraglutide was withdrawn in 15% of the cases due to gastrointestinal intolerance manifested by nauseas, vomiting or diarrea. A similar incidence is reported in patients with normal renal function. No symptomatic hypoglycemic episodes were observed.

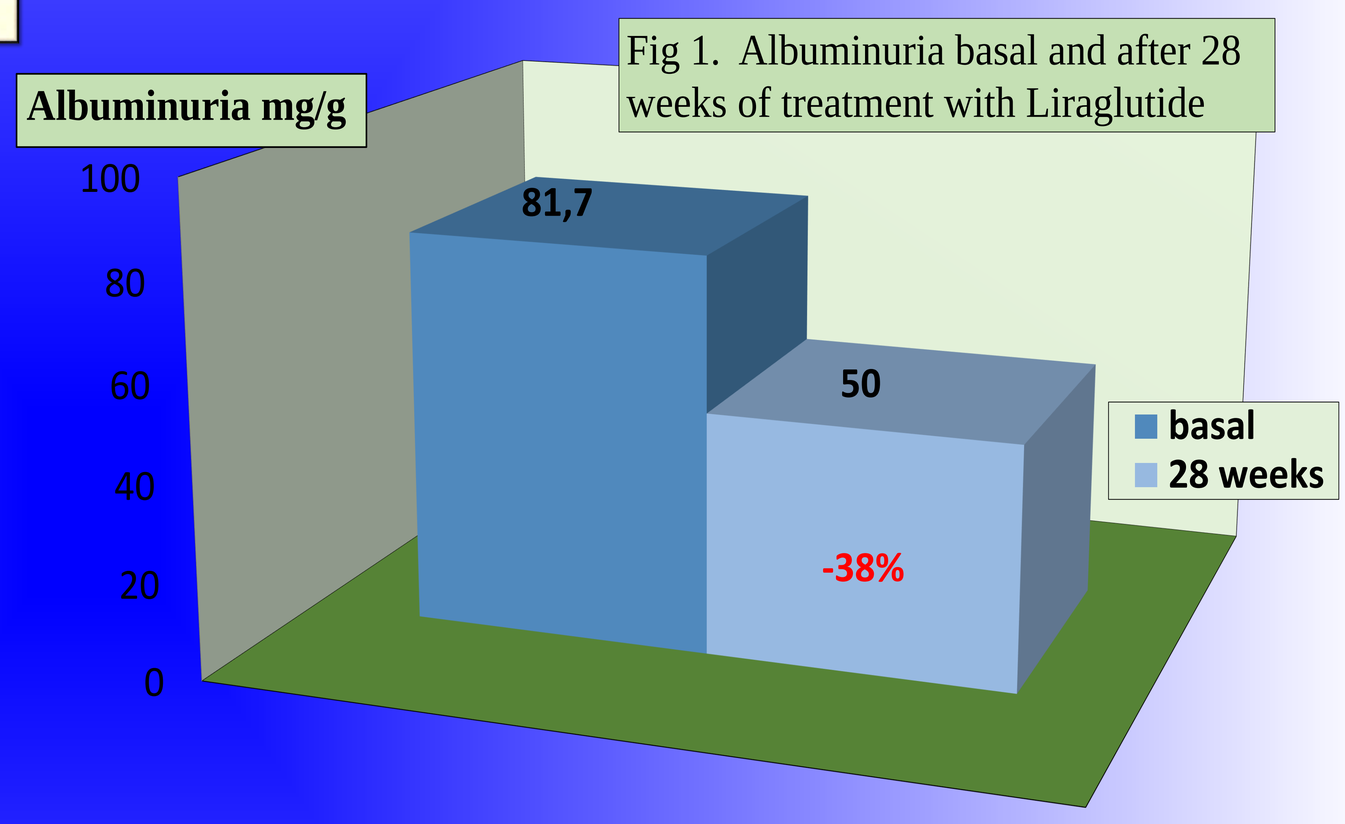

Fig 1. Albuminuria basal and after 28 weeks of treatment with Liraglutide

	Basal	28 weeks	
Weight (kg)	99±26	93±20,6	P=0,001
BMI (Kg/m^2)	34,20±10,49	32,99±11,49	P=0,008
Basal Insulin Uniis (IU)	28±59	24±51	P=0,008 (-14,2%)
Aspartic Insulin Units (IU)	7±27,5	0,5±0,1	P=0,03 (-92,8%)
Glucose (mg/dl)	146±100	114±60,5	P=0,003
HbA1c (%)	8,3±1,8	7,2±0,8 (-1,1)	P=0,002
Creatinine (mg/dl)	1,6±0,33	1,56±0,32	ns
GFR (CKD-EPI ml/min/1,73 m^2)	41±11,5	42±12	**ns**
Albuminuria/Creatinine (mg/g)	81,7±135	50±118	ns
Systolic Blood Pressure (mmHg)	125,5±22,5	120±20	ns
Dyastolic Blood Pressure (mmHg)	70±11	70±17,5	ns
LDL Cholesterol (mg/dl)	75±13,75	78±30	ns

Table 1. Basal and after 28 weeks of liraglutide treatment. Results are expressed in medians and IQR.

CONCLUSIONS:
Overweight type 2 diabetic patients with stage 3 chronic nephropathy, after 28 weeks of liraglutide treatment, showed a significant **decrease in their BMI**, baseline glycemia, **HbA1c**, **insulin requirements** and **oral antidiabetic medication**, with **fewer hypoglycemic episodes**. Its GFR remained stable. **Albuminuria decreases 38,8%**, even if it was no significant. (Fig 1). We will need more time and patients to establish this point. The use of liraglutide in this population seems safe and efficient and could open their therapeutic options.

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