The maintenance of glycemic control in the T2D usually requires a series of progressive steps. The use of basal insulinization seems to be one of the main strategies, being a useful therapy, well evaluated and of a generalized use at present. However, such treatment is not exempt from certain limitations, and among which the following are of particular interest: the need of dose adjustment, with the consequent use of capillary glycemia self-control, its association with a relevant weight gain, which might have a negative effect on the disease course through the worsening of the metabolic control and cardiovascular risk profile; the possibility of hypoglycemia, which might have a negative impact on the morbidity, the mortality and patient’s life quality, and finally, the lack of action on the postprandial hyperglycemia.

The GLP-1 analogues (glucagon-like peptide-1) constitute a new therapeutic group, which is available at present for the treatment of the T2D. They act through the stimulation of the insulin secretion and the inhibition of glucagon, according to circulating glucose. Moreover, they count with a series of favorable characteristics, among which the following ones can be stated: lack of hypoglycemia, delay in the gastric emptiness and its beneficial effects on appetite regulation and body weight, its special action on the postprandial glycemia and positive actions on morphology and beta cell function. Exenatide is available at present in our country, the first representative of this therapeutic group. The main limitations of this drug are the secondary gastrointestinal effects that appear in approximately 40% of the subjects, though they are usually transitional and ease off during the first weeks of the treatment; therefore they are not a withdrawal cause beyond 5-6% of the cases. Exenatide induces the onset of antibodies in 50% of the patients who receive the drug, without affecting its efficacy or presenting relevant side effects. Another GLP-1 analogue, liraglutide, is in a very advanced investigation phase.

Several works have compared the use of these therapies in patients with T2D over 9 years of evolution under treatment with metformin and/or sulphonylureas. An identical efficiency has been proved in all of them regarding to the HbA1c, though it takes place through a better control of the basal glycemia with insulin glargine and a higher effect on the postprandial glycemia with exenatide. A favorable ponderal evolution is also constant with exenatide and negative with insulin glargine, observing...
GLP-1 Agonists versus basal insulin.

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Differences at the end of the studies that range between –2.2 kg after 16 weeks and –4.6 kg after 52 weeks. The gastrointestinal effects were frequent with exenatide, 42.6-57.1% versus 3.1-8.6% with insulin glargine. A greater proportion of patients interrupted the treatment due to the side effects of the exenatide, mainly nausea and vomiting. The frequency of hypoglycemics was similar to the addition of insulin glargine when exenatide was combined with sulphonylureas, but it was significantly lower when associated to the use of metformin (2.6% versus 17.4% with insulin glargine).

A randomized study has been published recently that compared the beta cell function with exenatide and insulin glargine. A similar reduction of HbA1c could be proved again (0.8 versus 0.7%) and both groups reached an HbA1c of 6.8% after 52 weeks. The final weight difference was of 4.6 kg. Both treatments improved the sensitivity to insulin identically, which was only kept after 4 weeks of treatment suspension with exenatide. The group that received the drug showed a relevant improvement in all the measurements of beta cell function. However, after 4 weeks of drug suspension, the beta cell function returned to the pre-treatment levels. The onset of nauseas was stated in 50% of the patients who received exenatide and the frequency of hypoglycemics was higher with glargine (8.3 versus 24.2%).

The LEAD 5 study compared the use of liraglutide and insulin glargine in 581 patients with T2D, with a mean duration of 9.4 years, who received treatment with metformin and one sulphonylurea during 6 months. The available data shows an adequate glycemic control with the treatment guideline compared to insulin (–1.33 versus –1.09; p= 0.0015), with similar reductions of the basal glycemia. weight developed favorably with liraglutide (–1.81 kg) and negatively with glargine (+1.62 kg). Nauseas appeared in 14% of the patients who received liraglutide, and hypoglycemia frequency was not different between both treatments. Antibodies were detected versus liraglutide in 9.8% of the cases, without associating them to any relevant clinical effect.

The studies about life quality show similar results between exenatide and insulin glargine, in spite of the need of a higher number of injections in the first drug. The available data about cost-efficacy are scarce and contradictory: the superiority of insulin glargine is noted as regards to the exenatide in some cases, and the contrary resulted in other works.

All these data allow reasserting that the GLP-1 analogues have a similar effect on the glycemic control (HbA1c) regarding to the basal insulinization, and a higher control of postprandial glycemia can be observed. The additional advantages of the treatment with GLP-1 analogues are that the patients show a favorable ponderal evolution and a lower rate of hypoglycemics, they do not require a dose adjustment or capillary glycemia self-control, and there is a possibility of improvement in beta cell function. Its main limitation is the presence of gastrointestinal side effects (table 1). All this makes us put on the scale the use of this therapeutic group as an effective and adequate alternative compared to the basal insulinization in patients with T2D.
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