Efficacy and safety of lirolaglutide 3.0 mg in individuals with overweight or obesity and type 2 diabetes treated with basal insulin: the SCALE Insulin trial

Method

Study design

• SCALE Insulin (EU10295322) was a 52-week, randomised, double-blind, placebo-controlled, multicentre trial in 366 individuals with T2D (HbA1c ≥5.5% (10.0) mmol/mol) and overweight or obesity (BMI ≥27 kg/m²).

• An EBM programme was provided in both arms, which included a dietary diet, increased physical activity goals (increasing up to 200 minutes/week), and lifestyle advice.

• Primary endpoints were change in body weight (% and kg) and proportion with BMI >25% at 52 weeks across both the treatment arms.

• Secondary endpoints included change in waist circumference, HbA1c, hemoglobin, body mass index (BMI), quality of life, discontinuation of basal insulin, and total number of severe hypoglycaemic events.

• An ITT analysis was performed in all randomised individuals (liberal ITT: worst-case carried forward) and all treated individuals with basal insulin (PP ITT: per-protocol). All statistical analyses were performed in the PP population.

• A subset of participants recruited referred to the clinical trial version of the SF-36 questionnaire (SF-36v2) and IWQOL-Lite-CT questionnaire.

• Significant improvements were determined when p-value <0.05 and odds ratio (OR) >2.0.

• Similarity between both treatment groups was confirmed using a paired t-test.

• Safety was reported using descriptive statistics.

• The proportion of individuals achieving 5% or 10% weight loss (WL) at 56 weeks versus placebo: +22.8% and +13.8% (OR 3.4, p <0.0001), respectively (Table 2).

• The proportion of individuals achieving 6% or 10% weight loss at 56 weeks versus placebo: +31.5% and +20.2% (OR 2.5, p <0.0001), respectively (Table 2).

• Mean estimated change in weight at 56 weeks was −5.8% and −1.5% with lirolaglutide 3.0 mg and placebo, respectively, corresponding to an estimated treatment difference of −4.3% (95% confidence interval [CI] −5.5, −3.2, p<0.0001) (Figure 1).

• The proportion of individuals achieving 5%, 5-10%, 10%, and greater than 10% weight loss: 51.8%, 35.8%, 17.0%, and 4.2% versus placebo; +31.5%, +20.2%, +13.8%, and +5.9% (OR 3.4, p <0.0001), respectively (Table 2).

• Mean estimated change in HbA1c, % at 56 weeks was −1.1% and −0.6% with lirolaglutide 3.0 mg and placebo, respectively (p <0.0001) (Figure 2).

• Clinical improvement was observed in the lirolaglutide 3.0 mg group compared to placebo with respect to mean HbA1c and the proportion of >10% responders (p <0.0001) (Figure 2).

• The proportion of individuals achieving <7% HbA1c at 56 weeks: 32.6% versus 24.0% with placebo (OR 3.4, p <0.0001) (Figure 2).

• The proportion of individuals achieving <5.6% HbA1c at 56 weeks: 8.6% versus 6.6% with placebo (OR 1.3, p = 0.02) (Figure 2).

Conclusions

• In individuals with overweight/obesity, and insulin-treated T2D, lirolaglutide 3.0 mg was superior to placebo with respect to mean HbA1c and the proportion of individuals achieving ≤5.6% and ≤7% HbA1c at week 56.

• Additional, lirolaglutide 3.0 mg was associated with significant improvements in glycaemic control, such as lower mean HbA1c, and a reduced need for basal insulin.

• Additional metabolic parameters were reported in individuals in the placebo versus lirolaglutide 3.0 mg group, and no serious or tolerability issues were observed.

• Lirolaglutide 3.0 mg is effective for weight management, with an acceptable safety profile, in individuals with overweight/obesity and insulin-treated T2D.