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Reduction in the risk of developing type 2 diabetes (T2D) with liraglutide 3.0 mg in individuals with prediabetes and obesity or overweight from the SCALE Obesity and prediabetes randomised, double-blind, placebo-controlled trial

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Background: The 3-year part of this trial investigated the effect of liraglutide 3.0 mg, as an adjunct to diet + exercise, in delaying onset of T2D (primary endpoint) in adults with prediabetes and obesity (BMI ≥ 30 kg/m^2) or overweight (≥ 27 kg/m^2) with comorbidities.

Methods: Participants were randomised 2:1 to once-daily subcutaneous liraglutide 3.0 mg or placebo plus 500 kcal/day deficit diet and 150 min/week exercise. Efficacy data are observed means, with last observation carried forward for missing values. Clinicaltrials.gov ID: NCT01272219.

Results: Of 2254 randomised individuals with prediabetes (age 47.5 ± 11.7 years, 76.0% female, weight 107.6 ± 21.6 kg, BMI 38.8 ± 6.4 kg/m^2, mean $\pm$ SD), 1128 completed 160 weeks (52.6% on liraglutide, 45.0% on placebo). At Week 160, mean weight loss (WL) was 6.1% with liraglutide vs. 1.9% with placebo (estimated treatment difference -4.3% [95%CI $-4.9; -3.7$], $p < 0.0001$). More individuals achieved $\geq 5\%$ WL (estimated odds ratio [OR] 3.2 [2.6;3.9]) receiving liraglutide vs placebo (49.6% vs 23.7%) and more achieved >10% WL (OR 3.1 [2.3;4.1]) (24.8% vs 9.9%), both $p < 0.0001$. Based on the Kaplan–Meier plot of cumulative probability of a diagnosis of diabetes taking censoring into account, 3% of individuals in the liraglutide group vs. 11% in the placebo group were diagnosed with diabetes by week 160 while on treatment. At week 160, the estimated time to onset of diabetes was 2.7 times longer with liraglutide than with placebo while on treatment (95% CI 1.9; 3.9, $p < 0.0001$), corresponding to a hazard ratio of 0.2. Liraglutide was generally well tolerated. Gallbladder-related events (2.9 vs 1.2/100 patient-years of observation [PYO]) and confirmed pancreatitis (0.29 vs 0.13 events/100 PYO) were low, but more frequent with liraglutide.

Conclusion: Liraglutide 3.0 mg, plus diet + exercise over 3 years was associated with greater weight loss and reduced risk of T2D compared to placebo.

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A novel probiotic for glucose management: A randomised double-blind placebo controlled pilot study

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Background: Type 2 diabetes Mellitus (T2DM) is characterised by a persistent low-grade inflammatory response associated with the development of insulin resistance [1]. Variations in the type, diversity and metabolic capacity of gastrointestinal gastro-intestinal microbial communities have been shown to alter these metabolic and inflammatory