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EFFECT OF LIRAGLUTIDE ON FAT DISTRIBUTION IN TYPE 1 DIABETES

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We investigated the effect of 24 weeks of treatment with Liraglutide 1.8 mg combined with basal/bolus insulin regimen on fat distribution in overweight subjects with type 1 diabetes. In a double-blind, cross-over fashion, participants (n = 15) were assigned to insulin + placebo or insulin + Liraglutide for 24 weeks including a one-month titration period. Measures of fat distribution (waist and hip circumferences, skinfold thickness, percentage of body fatness, abdominal and mid-thigh computed tomography scans) were obtained in 15 overweight participants under the baseline, Liraglutide and placebo conditions. Paired t tests were used to compare the changes in metabolic and anthropometric parameters. With Liraglutide, all markers of fat distribution decreased clinically and significantly. BMI decreased since 30.5 ± 0.9 to 28.5 ± 1.0 kg/m2, waist and hip circumferences each decreased by about 3 cm. The sum of skinfold thickness decreased from 220 ± 45 to 176 ± 12 mm. Percentage of body fat went from 33.2 ± 1.6 to 31.3 ± 1.8% (all $p < 0.05$). Total and subcutaneous adipose tissue decreased significantly ($p < 0.0005$), decrease in visceral adipose tissue was of borderline significance ($p = 0.057$). With Liraglutide, changes in VAT from baseline were correlated with changes in insulin sensitivity. The addition of Liraglutide to basal/bolus insulin therapy for 24 weeks in overweight participants with type 1 diabetes significantly improved fat distribution and related metabolic parameters. Longer term studies evaluating clinical endpoints will be required to further document the role of GLP-1 agonist therapy in type 1 diabetes.

Biography

Marie-Christine Dubé completed her PhD in physiology and endocrinology from University Laval in 2006. Since then, she has been working in diabetes research at CHU de Québec-University Laval. She has published more than 20 papers in reputed journals.

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