Addition of exenatide therapy to insulin treatment in individuals with type 2 diabetes

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Exenatide can improve glycaemic control, body weight and lipid levels in patients with type 2 diabetes but small-scale trials have been equivocal as to whether addition of exenatide in individuals already receiving insulin treatment is beneficial. We studied the impact of adding twice-daily exenatide in obese patients with type 2 diabetes and poor glycaemic control who were taking large (>100 U/day) doses of insulin, commencing in November 2007. Our aim was to evaluate potential benefits in routine clinical practice with respect to glycaemic control, weight and insulin requirements, and to determine tolerability and safety, including the incidence of hypoglycaemia.

The ten patients (7 women) studied were mean (SD) age 55.5 (2.6) years, body mass index (BMI) 38.6 (1.7) kg/m^2, waist circumference 129 (9.9) cm and HbA_{1c} 9.6 (9.0-10.3) % with median (range) known diabetes-duration 10 (8-28) years and initial median insulin dose 201 (32-460) U/day. Six patients were also taking metformin.

Interim data following 3 months of exenatide treatment showed BMI decreased by 0.7 (1.1) kg/m^2 (p=0.17), waist circumference by 6.5 (0.7) cm (p=0.05), HbA_{1c} by 1.2 (1.9) % (p=0.38) and median (range) daily insulin dose by 40 (12-45) units (p=0.008). Four patients experienced nausea and one weekly symptomatic hypoglycaemia.

In individuals with type 2 diabetes taking large doses of insulin, exenatide can offer benefit in terms of improved glycaemic control and weight loss without unacceptable adverse events or undue hypoglycaemia, as well as a substantial reduction in insulin dose.