Reactive hypoglycaemia due to late dumping syndrome: successful treatment with acarbose

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Reactive hypoglycaemia is a rare disease which occurs postprandially in everyday life involving blood glucose levels below 2.5 to 2.8 mmol/l. We report on a 66-year-old patient who developed symptomatic reactive hypoglycaemia due to late dumping syndrome 10 years after oesophagectomy with cervical anastomosis. A 75 g sucrose load revealed a plasma glucose level of 9.4 mmol/l after one hour, followed by symptomatic hypoglycaemia with a plasma glucose level of 1.8 mmol/l after three hours. Concomitantly, high concentrations of insulin (3216 pmol/l at a glucose level of 9.4 mmol/l and 335 pmol/l at a glucose level of 1.8 mmol/l) and glucagon-like peptide 1 (GLP-1) (375 pmol/l at a glucose level of 9.4 mmol/l and 85 pmol/l at a glucose level of 1.8 mmol/l) were measured. While the patient was under treatment with acarbose, another sucrose load did not provoke symptomatic hypoglycaemia (plasma glucose nadir of 4.6 mmol/l after two hours). Insulin and GLP-1 levels increased much less, to peak levels of 375 pmol/l and 75 pmol/l respectively, after one hour when plasma glucose was 6.8 mmol/l. We conclude that in patients with reactive hypoglycaemia due to gastrointestinal surgery, acarbose decreases rapid glucose absorption associated with hyperglycaemia and GLP-1 secretion, and thus diminishes excessive insulin release. Acarbose is therefore a successful treatment modality for reactive hypoglycaemia due to late dumping syndrome.