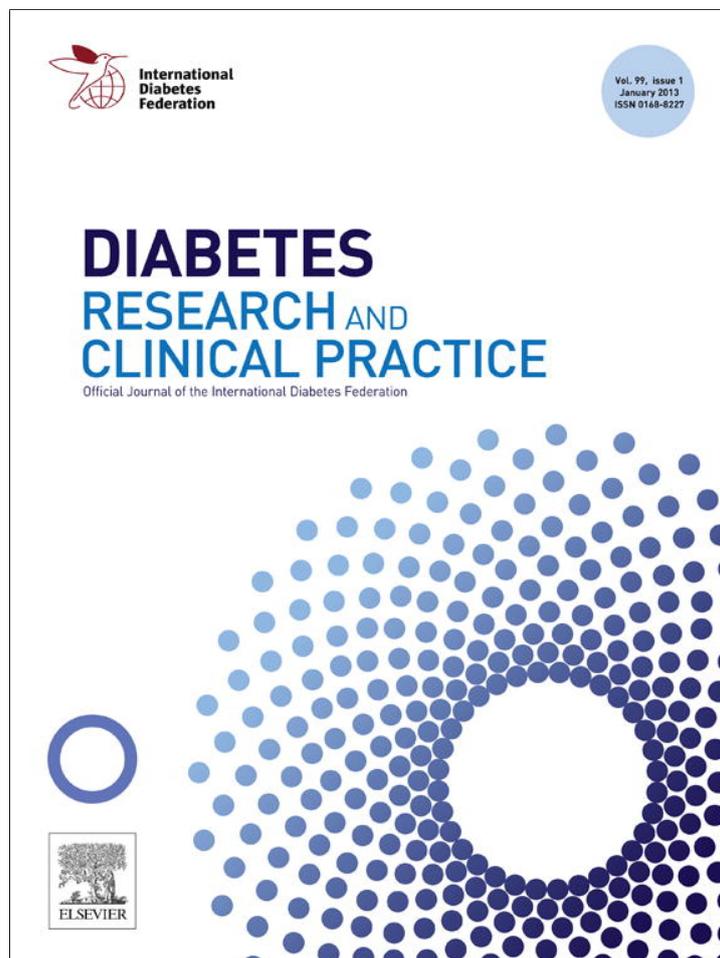


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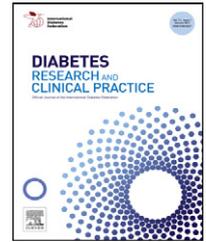


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### Letter to the Editor

#### Seven-day subcutaneous continuous glucose monitoring demonstrates that treatment with acarbose attenuates late dumping syndrome in a woman with gastrectomy for gastric cancer

Dear Editor,

Late dumping syndrome is a possible complication of upper gastrointestinal surgery [1]. The symptoms occur one to three hours after eating and include weakness, sweating, dizziness, confusion, and loss of consciousness. These are a result of a sudden increase in blood glucose due to the rapid passage of carbohydrates into the small intestine and subsequent absorption, which causes excessive insulin secretion [2]. Diet with at least 5 meals containing equal amounts of carbohydrates is the

treatment of choice, though symptoms may persist and require pharmacologic treatment. It has been reported that  $\alpha$ -glucosidase inhibitors significantly ameliorate the neuroglycopenic symptoms of late dumping syndrome [3–5]. In such cases, monitoring glycemia with non-invasive subcutaneous continuous glucose monitoring (SCGM) [6] may be useful for the diagnosis and determining appropriate treatment.

We present the case of a 55-year-old woman (weight 56.5 kg; BMI 21.8 kg/m<sup>2</sup>) who underwent gastrectomy for gastric cancer in 2010. Type 2 diabetes was diagnosed in 2006 and she was treated with sulfonylurea which was discontinued after gastrectomy. Following surgery, severe symptoms of blurred vision, diaphoresis, confusion and episodic loss of consciousness occurred one to three hours after eating, and were related to low capillary blood glucose levels. Late dumping syndrome was diagnosed and she was

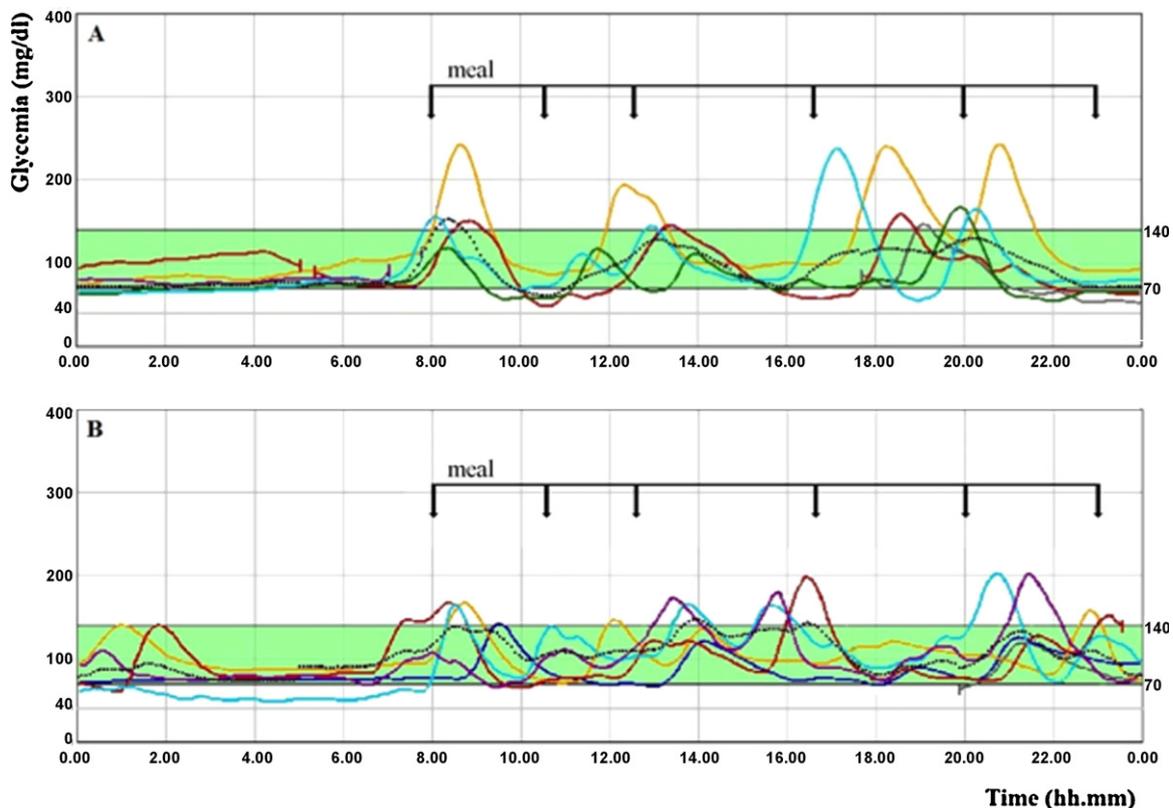


Fig. 1 – Seven-day evolution of glycemia evaluated by subcutaneous continuous glucose monitoring in a gastrectomized woman with late dumping syndrome before (A) and after (B) treatment with acarbose.

referred to our hospital. Treatment with acarbose 25 mg before breakfast, lunch, and dinner was started. 7-Day SCGM (ENLITE Glucose Sensor; Medtronic Minimed, Northridge, CA, USA) was performed before and soon after treatment with acarbose and average 7-day glycemia, standard deviation, coefficient of variability (CV%), number of hypoglycemic (glycemia < 70 mg/dl) or hyperglycemic (glycemia > 140 mg/dl) events was calculated (Fig. 1) [7]. During therapy with acarbose, there was a significant improvement in symptoms and no episode of loss of consciousness. Before acarbose treatment, average 7-day glycemia (mean  $\pm$  SD) was  $91 \pm 37$  mg/dl, with 28% of values in the hypoglycemia range, and 11% above the hyperglycemic threshold; CV was 40.7%. After acarbose treatment, 7-day glycemia was  $99 \pm 34$  mg/dl, with 10% of values in the hypoglycemia range and 17% above the hyperglycemic threshold; CV was 34.3%. Therefore acarbose reduced the incidence of hypoglycemia, ameliorated the late dumping symptoms but increased the duration of hyperglycemia. A previous report [8] has documented favorable effects of acarbose on late dumping syndrome with CSGM in a patient who had undergone bariatric surgery. Our case report provides further evidence of successful medical treatment of late dumping syndrome with acarbose and highlights the usefulness of SCGM as an investigative tool.

### Conflict of interest

The authors declare that they have no conflict of interest.

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