

Challenges in insulin resistance: impact of bariatric surgery

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We present a 38 year old Emirati lady with 8 years history of Type 2 diabetes, and poor glycaemic control and refractive to multiple anti-diabetic regimens, including insulin therapy. Her glycosylated haemoglobin ranged between 9 and 12% (11.8 and 16.6 mmol/l). Medication included metformin and basal-bolus insulin with a total daily dose of over 100 units. Past medical history included hypertension and hyperlipidemia (LDL 4.3 mmol/L, HDL 0.8 mmol/L and TG 5.2 mmol/L) with a strong family history of diabetes. She missed numerous appointments.

The ensuing years were marked by pregnancy leading to premature delivery, miscarriages and subsequent weight gain. Acanthosis nigricans, sleep apnea and snoring were other features of note. Trial of several combinations of anti-diabetic treatments (liraglutide, insulin degludec, dapagliflozin, sitagliptin, pioglitazone and exenatide) did not lead to a satisfactory glycemic control. Insulin pump therapy or bariatric surgery were contemplated as possible way forward.

She underwent Roux-en-Y gastric bypass and had improvements. All insulin was stopped, glycaemic control showed drastic improvement with glycosylated haemoglobin reaching < 6% and her BMI and weight were markedly reduced (-10 kg/m² and -22 kg respectively). Her sleep apnea and snoring completely subsided.

The question of whether diabetes remission is mainly due to weight loss or weight loss-independent effects of the surgery, is fundamental. This case highlights the significant positive impact of bariatric surgery on insulin resistant patients, with a long complex history of diabetes.

In addition to substantial weight loss, bariatric surgery is known to have profound metabolic effects, the most striking of which are the marked resolution of obesity-associated comorbidities.

Keywords: insulin, bariatric surgery