

Editorial

Is diabetes a surgical disease?

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The answer is yes. At least those types of diabetes that resolve immediately after gastric bypass surgery. That means type 2 diabetes that is controlled only with oral anti-diabetic drugs or with small quantities of insulin and below 10 years of evolution. Specially if the diabetes is associated with the insulin resistance that normally is developed parallel to overweight or obesity. And specially also, in cases with bad controlled of the disease in spite of using a combination of oral drugs and/or oral drugs and insulin, with high glycosilated hemoglobin levels. Even more if diabetic complications are already appeared¹.

Normally are patients with a good beta cell mass. So, beside the glucose redistribution between brain, liver and intestine² produce by gastric bypass surgery, the food come to a new part of the jejunum with capacity for recognizing glucose. The recognition of the presence of glucose produce a stimulus of the L cells of the ileum that secrete the incretins necessary for stimulating the beta cells of the pancreas for releasing insulin to metabolise the absorbed glucose. Parallel the brain is informed of the increase of glycemia and it send the necessary signals to pancreas for maintaining the insulin secretion and release to the general circulation for facilitating the entry the glucose to muscle and liver cells. And to the liver to store the remaining not necessary circulating glucose in form of glycogen.

These patients abandon totally the diabetes treatment immediately after surgery. Beside that they leave also all the other metabolic syndrome treatment as anti-hypertensive and anti-hyperlipidaemic drugs, effect that occur after gastric bypass surgery as was proven long time ago³.

The fasten glucose normalize in some weeks as well as glycosilated hemoglobin. The patients loss weight proportional to the kind of gastric bypass performed, essentially fat but not muscle mass⁴.

Surgical intervention by laparoscopic one anastomosis gastric bypass⁵ for diabetes and metabolic syndrome lasts between 45 and 60 minutes. The patient

stay during 48 hours in the hospital and then can follow a normal life and return immediately to work. In our hands with zero mortality and around 1% major complications rate (ten years follow-up data).

After some weeks the patients can have a free diet. The evolution of diabetic complications, in case they were present before surgery, is very positive for retinopathy, nephropathy and cardiopathy trend to recover the normal function without medication (personal data non published until now).

The main doubt so far is, if this effect could maintain for ever? There are data that report on failure in obese patients when they regain weight in cases linked to insulin resistance due to overweight or obesity^{6,7}. It is of central importance to choose a bariatric procedure that maintain weight loss long term with minimal changes in the gastrointestinal tract given its condition of physiologic surgery. In this regard, the gastric bypass of one anastomosis has proven to be superior to the gastric bypass of two anastomosis (Roux-en-Y)^{8,9}.

We use our one anastomosis gastric bypass⁵ for all metabolic surgery, in normal weight⁴ (what is really diabetes/metabolic surgery) and for obese patients (obesity surgery) profiting its versatility. We have always tailored our surgery to the patient characteristics, performing a more or less restrictive gastric pouch and excluding a length of small intestine distal to the ligament of Treitz in accordance with the BMI of the patient and their need for losing weight and, of course, proportional to the total length from Treitz to ileocecal valve. That is the reason why it was easy to start performing diabetes surgery in normal weight patients based in our experience in tailoring the bypass to each patient necessities⁴.

In conclusion, at present there are enough evidence¹⁰⁻¹³ to offer very low risk gastric bypass surgery (mortality near zero)¹⁴ (that are even not improved in bariatric surgery excellence centers¹⁵ for treating a large number of type 2 diabetes patients. This surgery have demonstrated an until now unbelievable¹⁶ good response of Diabetes Mellitus type 2, with resolution of the disease with only surgery.

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