Long limb compared with standard limb Roux-en-Y gastric bypass for type 2 diabetes and obesity: the LONG LIMB RCT

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Plain English summary

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Plain English summary

Metabolic surgery produces major and sustained weight loss and is being increasingly used to treat patients with obesity and diabetes mellitus. There was initial optimism that these procedures might 'cure all diabetes mellitus'. However, the gold standard operation, standard gastric bypass, effectively results in diabetes mellitus remission in only 4 out of 10 patients.

To design a more successful procedure, an understanding of how metabolic surgery works to improve diabetes mellitus is required. Hormones from the gut are released when food is eaten. It has been discovered that the beneficial effects of surgery on glucose control are mainly due to increased release of these gut hormones. These gut hormones improve blood sugar levels by increasing the release of insulin, and also reduce appetite, leading to weight loss.

In this trial a procedure called long limb gastric bypass was tested. It was designed to be better at improving diabetes mellitus than the 'standard limb' gastric bypass, while being as safe. It was expected that this new procedure would work better than the standard limb gastric bypass by causing an even bigger increase in the release of gut hormones and, thus, of insulin.

Forty-eight people with diabetes mellitus completed the trial. It was found that the standard and long limb operations were equally effective in reducing blood sugar and reducing weight by causing the release of gut hormones. The study did not show that there was a significant difference between the standard and long limb operations.

This trial has taken the first critical step in studying the role of the gut in glucose control after gastric bypass surgery. This trial shows that a long limb gastric bypass does not result in better glucose control and more weight loss than the standard limb operation. Other changes to the surgical procedure to construct a better gastric bypass that is more effective for patients with diabetes mellitus can now be investigated.
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