

Title: Cost savings of diabetes medications after gastric bypass – analysis from a Canadian center

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Aim: We assessed for change in average annual cost of diabetic medications after gastric bypass (GB) surgery.

Methods: We retrospectively reviewed subjects with diabetes mellitus type 2 (DM2) who were treated with GB from October 2011 to October 2017. Baseline medication and clinical data was identified 30 days before surgery, and postoperative data was grouped into yearly intervals.

Comparisons were made between the proportion of subjects achieving remission of DM2 (HbA_{1c} <6.5% on no hypoglycaemic medications) and cessation of insulin therapy. Student paired t-test was used to compare postoperative intervals to baseline data.

Results: Of 207 subjects who underwent GB, 64 subjects met inclusion criteria. The mean length of postoperative follow-up was 19.7 months ($\sigma = 16.8$), and follow-up data later than 2 years postoperatively was limited. Achievement of remission of diabetes peaked at 69% of subjects, at 24 months postoperatively. Peak mean reduction of HbA_{1c} was 1.3% (5.9 versus 7.2, $p < 0.0001$) at 6 months postoperatively, with gradual trending mean HbA_{1c} increases in subsequent follow-up. Achievement of cessation of insulin medications peaked at 88%, at 12 months

postoperatively. Peak mean reduction of medication amount was 77% (0.59 versus 2.54, $p < 0.0001$) and peak mean annual cost reduction of diabetes medications was 94% (\$135 versus \$2380, $p < 0.0001$), at 12 months postoperatively.

Conclusions: GB is an effective intervention in reducing the annual cost of diabetic medications, and possibly cessation of insulin therapy in persons living with obesity and diabetes.

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