

# IMPROVED GLYCAEMIC CONTROL IN DIABETIC PATIENTS UNDERGOING LAPAROSCOPIC ADJUSTABLE GASTRIC BANDING

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## Background

Bariatric surgery improves type 2 diabetes and insulin resistance<sup>1,2</sup>. There is uncertainty about the effectiveness of various operations and factors predicting weight loss and improved glycaemic control among diabetics.

## Aim

To evaluate laparoscopic adjustable banding surgery (LAGB) with regards weight loss and improvement in glycaemic control among diabetics and non-diabetics and to identify factors predicting improvement in glycaemic control among diabetics.

## Method

Data was collected prospectively from all patients undergoing LAGB. Patients were assessed prior to surgery and 6, 12 and 24 months. Outcome measures included weight change, serum insulin, fasting blood glucose (FBG), HbA1c, and change in medications. Insulin resistance was calculated using HOMA-IR.

## Results

173 patients underwent LAGB, 42 had diabetes. There was no difference in age, BMI and M:F ratio between diabetics and non-diabetics at baseline. Diabetics had significant improvement in FBG at 6, 12 and 24 months (-2.8mmol/L, -2.8mmol/L and -3.4mmol/L,  $p<0.03$ ). 62% of diabetics had high FBG ( $>7.0$ mmol/L), this improved to 27% at 12 months. Higher FBG at 6 months was associated with less excess weight loss (EWL). Diabetics had significant improvement in HbA1C at 6, 12 and 24 months (-0.9%, -1.2% and -1.8%,  $p<0.05$ ). HOMA-IR improved from 8.5 to 3.9 at 6 months ( $p<0.01$ ). Overall 74% of patients reduced or ceased their diabetic medications. EWL was 31%, 43% and 47% at 6, 12 and 24 months and there was no difference between diabetics and non-diabetics. In diabetics, %EWL correlated with improved HOMA-IR and HbA1C. There was no difference in %EWL between diabetics with normal FBG and high FBG at baseline. A heavier BMI at baseline correlated with greater improvements in HbA1C at 6 months.

## Conclusion

LAGB resulted in significant and sustained weight loss and improved glycaemic control. Amongst diabetics there was a significant reduction in

medications and a reduction in patients with high glycaemic markers. %EWL correlated with improved insulin sensitivity and HbA1C.

### **References**

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