

OS9.02**Comparison of Effects of Sleeve gastrectomy, Duodenal-jejunal Bypass and Ileal Transposition for Type II Diabetes**

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Introduction: Sleeve gastrectomy (SG), duodenal jejunal bypass (DJB) and ileal transposition (IT) have been reported to be effective for the treatment of T2DM.

Objectives: It is unknown which procedure has a stronger anti-diabetic effect. The purpose of this study was to compare the effectiveness of these novel procedures

Methods: SG, DJB, IT and sham operation of each procedure were performed in 10-12 weeks old Goto-Kakizaki rats, a spontaneous non-obese model of T2DM. The glucose homeostasis effect was evaluated by measuring fasting glucose (FBG) and glycosylated haemoglobin (HbA1c). Gut hormonal profiles and lipid absorption were also examined. Rats were observed for 1 year.

Results: All three procedures had significant lower FBG when compared to the respective sham groups. DJB and IT had lower FBG than SG (SG vs DJB, $p=0.023$; SG vs IT, $p=0.009$) whereas DJB and IT had a similar FBG level, $p=0.678$. For HbA1c, all procedures had lower levels than the respective sham groups, $p<0.001$. The HbA1c of SG rebounded on 8th week whereas HbA1c of DJB and IT remained at low level. SG had a significant higher HbA1c level than DJB and IT, $p<0.001$ while DJB and IT had a similar level, $p=0.685$.

GLP-1 and PYY were raised in DJB and IT whereas GIP level increased in DJB. All three procedures have different lipid absorption profile.

Conclusion: SG, DJB and IT all had anti-diabetic effect. DJB and IT had more potent anti-diabetic effect than SG. Each procedure has different effects on metabolic diseases and their clinic application deserve individual consideration.

OS9.03**Hormonal Changes in T2DM Patients Following Gastric Plication**

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Introduction: Laparoscopic Greater Curvature Plication (LGCP) is a relatively novel procedure. Since 2009 >1000 LGCPs were performed in our institution. To our knowledge no study on incretin and other metabolic changes following LGCP is available yet.

Objectives: To evaluate potential influence of LGCP on incretin and other metabolic parameters.

Methods: 23 obese T2diabetics (av. age: 54.4 ± 6.86 yrs; BMI: 40.1 ± 4.77 kg/m²) underwent meal test (375 kcal; protein 30%, carbohydrate 45%, fat 25%) before, 1 and 6 mths after LGCP. Fasting blood samples and 30 min interval samples evaluations up to 3 hrs after meal test were done. Glycaemia, HbA1c, insulin, C-peptide, glucagon, HDL, LDL-cholesterol, triacylglycerols, adipin, adiponectin, ghrelin, GLP-1, GIP, leptin, PAI-1, resistin and visfatin were recorded.

Results: All patients showed decrease in weight, BMI, waist-hip circumference ($p<0.0001$), % body fat ($p<0.02$), HbA1c and glycaemia ($p<0.0001$) 1mth after LGCP.

Postprandially insulin ($p<0.0001$), glucagon ($p<0.03$), resistin ($p<0.007$), leptin, ghrelin and PAI-1 ($p<0.0001$) decreased significantly. GIP, GLP-1 and visfatin didn't change significantly 1mth after LGCP, however GIP ($p<0.0001$) and Adipin ($p<0.005$) increased, on contrary with significantly decreased GLP-1 ($p<0.05$), and visfatin ($p<0.005$) 6 months postoperatively.

Conclusion: T2 diabetics significantly decreased weight and other antropometry. Diabetes and lipid parameters significantly improved already 1 month after LGCP, and the trend continued with significance after 6 months. Significant decrease in insulin, glucagon, leptin, ghrelin, GLP-1, and increase in GIP and Adipin was noted during follow-up. Results suggest that LGCP induces incretin and metabolic changes and is effective in treatment of obesity and T2DM in short to mid-term.

OS9.04**Behavior of Glycemic Control (GC) after Laparoscopic Sleeve Gastrectomy (LSG) at 1 and 5 years in Morbidly Obese (MO) Indians**

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Introduction: LSG in MO is known to have improvement in Type 2 Diabetes (T2DM). However, long term results are still unknown.

Objectives: To evaluate long-term GC in MO Indians at 1 and 5 years after LSG and its relation with weight and BMI.

Methods: Glycemic outcomes, weight and percentage Excess BMI Loss (%EBMIL) of 81 MO patients with T2DM who underwent LSG between January 2005 to January 2009 and had completed 1 and 5 year follow up were assessed and analyzed. Initially 41/81 were on oral hypoglycemic agents (OHA), 12/81 on OHA + insulin and 28/81 on metformin only. The baseline mean weight was 114.2 ± 27.30 kg, BMI 43.6 ± 10.11 kg/m² and duration of diabetes 5.2 years. Remission was defined as HbA1c 6.5% and off medications.

Results: At 1 and 5 years after LSG 66/81, 58/81 had remission, 15/81, 23/81 improved and %EBMIL was 62.7%, 51.2%, the mean weight 80.5 ± 18.22 , 89.07 ± 21.67 kg respectively. Recurrence of diabetes occurred in 8/66 (12%) patients who