

Effects of Laparoscopic Sleeve Gastrectomy and Roux-y Gastric Bypass on obese patients with Type 2 Diabetes Mellitus

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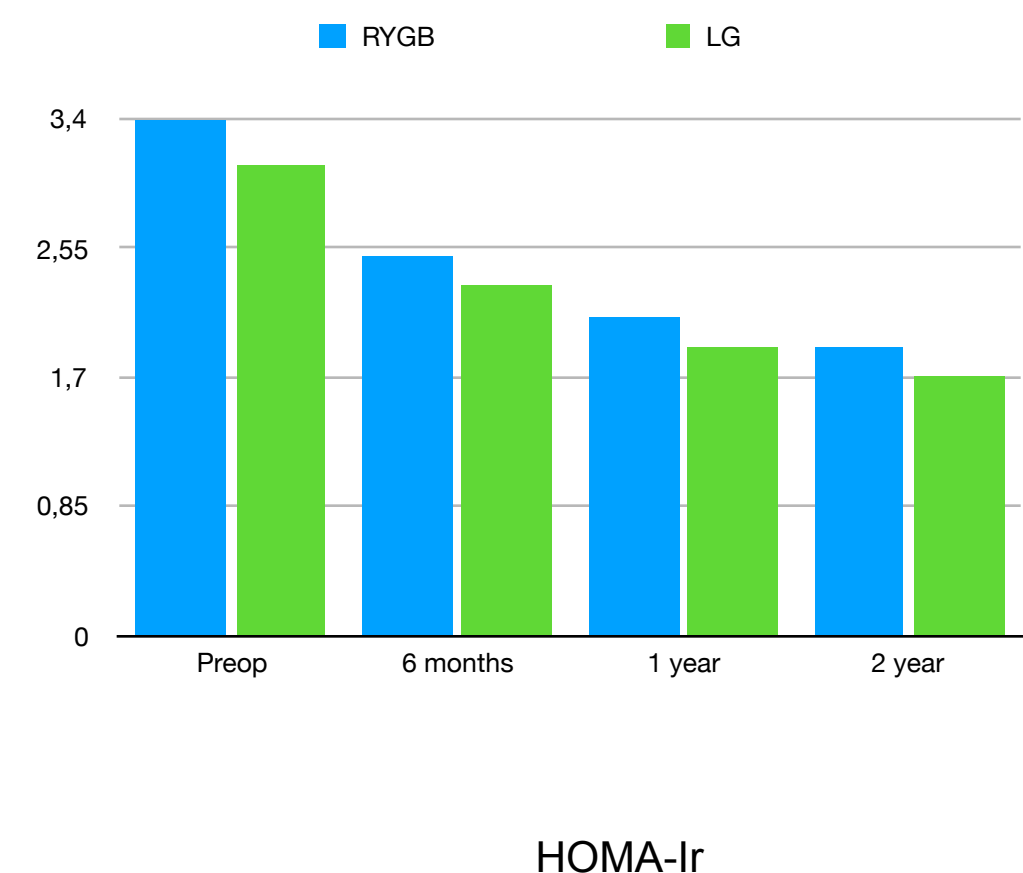
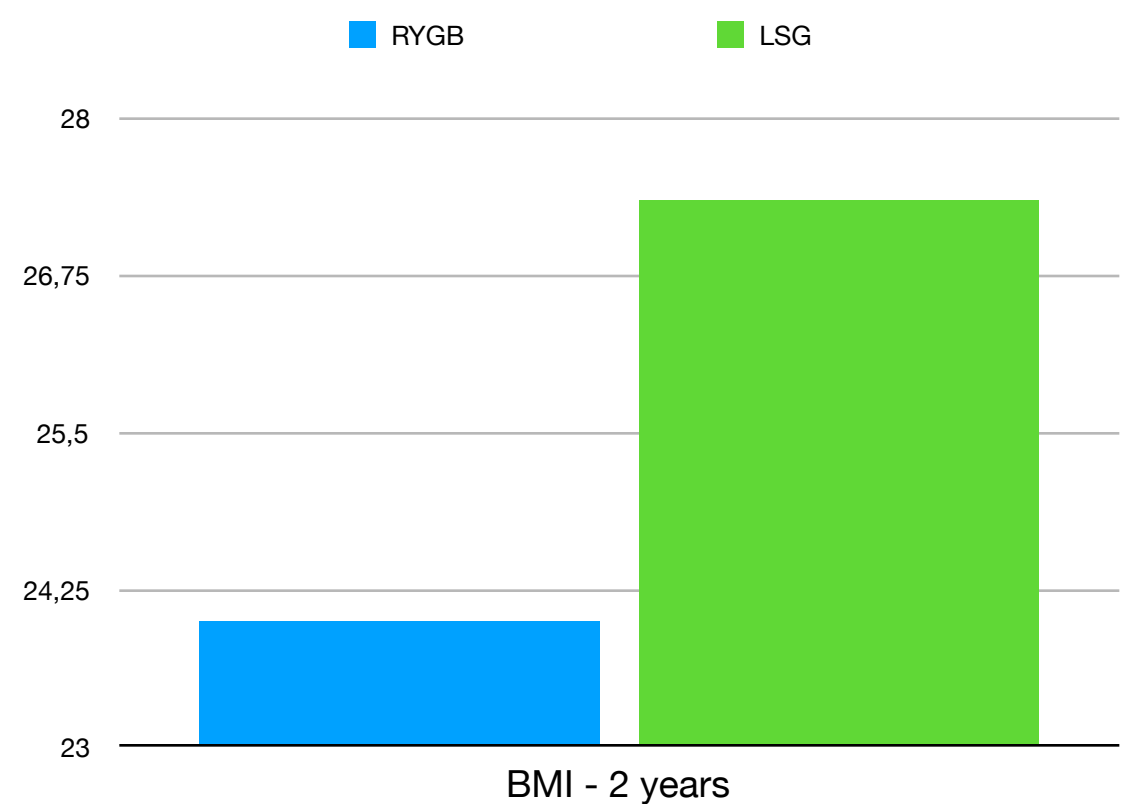
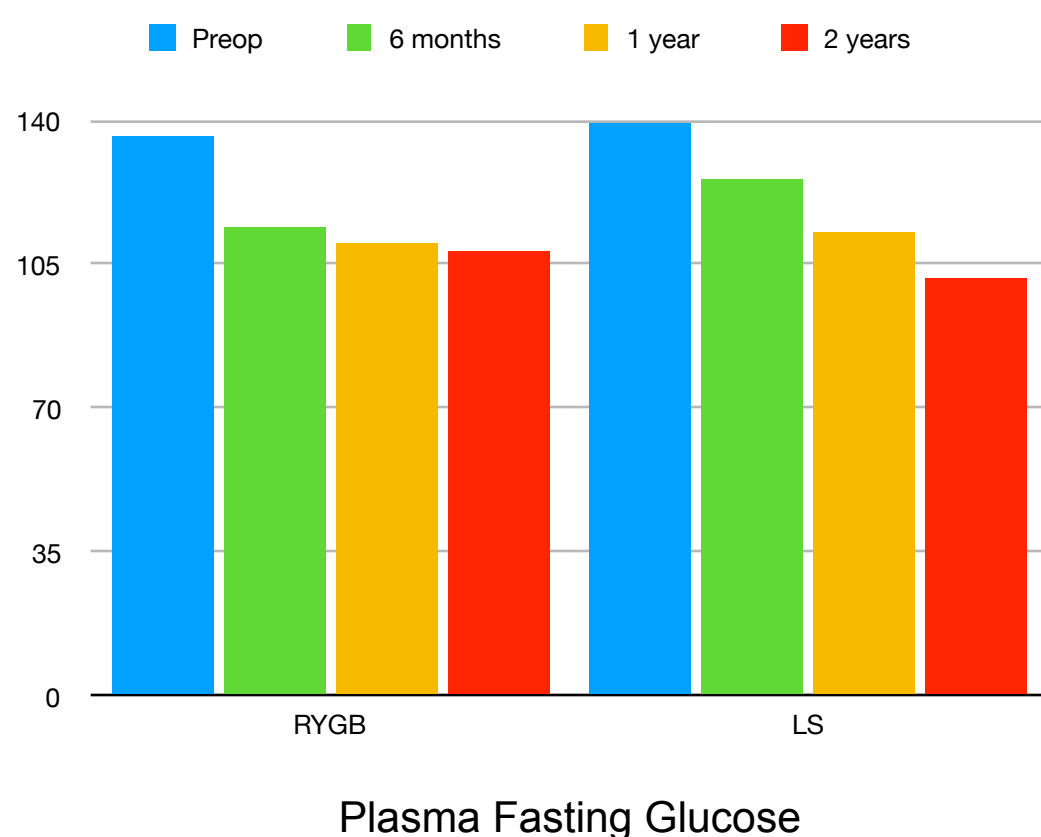
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BACKGROUND Laparoscopic sleeve gastrectomy(LSG) and Roux-n y gastric bypass(RYGB) are two of the most efficient strategies for Type 2 Diabetes Mellitus(DM) with obese patients. The surgical approach let us to succeed higher remission rates than non-surgical approach. This study aim to differ the effect between these two surgery techniques.

METHOD Clinical data of 40 patients with Type 2 DM who underwent LSG(n:20) and RYGB(n:20) were analyzed retrospectively during 3 year period between 2014-2017. BMI,Hba1c , fasting glucose, HOMA-ir index scores were analyzed at preoperatively,6 months,1 year,2 year after operation,respectively.

RESULTS 40 patients were analyzed in this study. Median age was 46(34-52) in all groups. Preoperative fasting glucose , Hba1c, BMI, HOMA-ir scores were $135 \pm 3,4$ mg/dl, $8,6 \pm 1,35$ %, $36,48 \pm 2,1$ kg/m² , $3,2 \pm 0,8$, respectively. In LSG group after 2 year follow up, fasting plasma glucose , Hba1c, BMI, HOMA-ir scores were $102,4 \pm 6,4$ mg/dl, $6,1 \pm 1,2$ % , $27,34 \pm 1,64$ kg/m², 1,7 , respectively. In RYGB group plasma fasting glucose , Hba1c, BMI , HOMA-ir scores were $108,34 \pm 4,7$ mg/dl, $6,3 \pm 1,62$ % , $24 \pm 2,68$ kg/m² and 1,9 after 2 years follow up, respectively. We determined a significant reduction in use of oral antidiabetics and insulin requirement.

CONCLUSIONS Both LSG and RYGB have significant affects on type 2 DM with obese patients^{1 2}. The affects are highly variable between studies³. A decrease in HOMA-IR and insulin resistance after sleeve gastrectomy in patients with T2DM had been confirmed by Rizzello et al ²,before. In our study, LSG has better results on HOMA-ir , Hba1c and plasma fasting glucose levels . However, no single standart technique can be recommended in all cases. Surgeon has to be discussed all the results with the patients and decide which is best for the treatment.



1 Schauer PR, Mingrone G, Ikramuddin S, Wolfe B. Clinical outcomes of metabolic surgery: efficacy of glycemic control, weight loss, and remission of diabetes. Diabetes Care 2016; 39: 902–911.

2 Rizzello M, Abbatini F, Casella G. et al (2010) Early postoperative insulin-resistance changes after sleeve gastrectomy. Obes Surg 20:50–55

3 Schauer PR, Mingrone G, Ikramuddin S, Wolfe B. Clinical outcomes of metabolic surgery: efficacy of glycemic control, weight loss, and remission of diabetes. Diabetes Care 2016; 39: 902–911.