

## Six Months Results of Laparoscopic Sleeve Gastrectomy in Treatment of Obesity and its Metabolic Complications

A. Sirbu<sup>1</sup>, C. Copăescu<sup>2</sup>, S. Martin<sup>1</sup>, C. Barbu<sup>1</sup>, R. Olaru<sup>1</sup>, S. Fica<sup>1</sup>

<sup>1</sup>Carol Davila University of Medicine and Pharmacy, Endocrinology Department, Elias University Hospital, Bucharest, Romania

<sup>2</sup>Delta Hospital, Bucharest, Romania

### Abstract

**Background:** Laparoscopic sleeve gastrectomy (LSG) has become a popular bariatric surgical procedure, with proven results in achieving weight loss, however data regarding its effectiveness on metabolic syndrome (MetS) components are scarce. The aims of the present study were to assess the outcomes of LSG on weight loss and obesity associated metabolic complications at six months following intervention.

**Patients and methods:** This was a retrospective study on 124 consecutive obese patients (29.8% men), who had undergone LSG between 01/01/2008 and 12/31/2010, in a highly specialized clinic. The dynamic of anthropometric and biochemical data between baseline and six months following LSG were evaluated. We also determined the change in MetS prevalence and used logistic regression to estimate predictors of MetS remission.

**Results:** 6 months after LSG, the body mass index (BMI) decreased from  $46.84 \pm 8.62$  to  $33.81 \pm 7.04$  kg/m<sup>2</sup> ( $p < 0.001$ ). Mean excess BMI loss (EBL) was  $65.24 \pm 25.16$  %. The best results on weight loss were observed in young patients, not affected by MetS, with lower initial BMI. Lipids profile suffered a significant improvement (HDL cholesterol increased, while LDL, total cholesterol, triglycerides decreased,  $p < 0.05$  for each). HOMA-IR values decreased by 75.2 %, from  $5.24 \pm 4.49$  to  $1.30 \pm 1.22$  ( $p < 0.001$ ). MetS prevalence was reduced from 74.3% to 18.4% ( $p < 0.001$ ). In multivariate analysis, % EBL remained the only significant predictor of MetS remission, the risk for lack of a MetS remission being practically 3 times higher in patients with EBL < 50%, compared to those with EBL > 50% (OR: 2.97, CI: 1.1 – 10.23,  $p < 0.05$ ).

**Conclusions:** As early as 6 months after LSG we recorded a significant weight loss and improvement in insulin resistance and lipids metabolism, as well as an impressive reduction in metabolic syndrome prevalence.

**Key words:** gastric sleeve, metabolic syndrome, HOMA-IR, weight loss

Corresponding author: Prof. Simona Fica

Elias University Hospital, Endocrinology and Diabetes Department

bd Marasti, 16 – 18, sector 1, Bucharest, Romania

E-mail: simonafica@yahoo.com