

## **BATTLE OF THE SEXES IN WEIGHT LOSS SURGERY: OUTCOMES OF 6,685 WOMEN VERSUS 2,281 MEN WHO UNDERWENT LAPAROSCOPIC SLEEVE GASTRECTOMY**

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**Introduction:** In recent years, laparoscopic sleeve gastrectomy (SG) has become the most frequently performed bariatric operation. Nevertheless, few investigations have examined outcomes variation between the sexes following SG. In this medically fragile surgical population, every advance in clinical insight could optimize peri-operative management.

**Objective:** To identify variation in the outcomes of female versus male patients with obesity who underwent SG.

**Methods:** Data from 8,966 Surgical Review Corporation BOLD database adult patients who underwent SG were analyzed retrospectively in two groups: Women (n=6,685) and Men (n=2,281). Data was collected at pre-operative baseline and at 2, 6, 12, 18, 24, and 36 months after SG. Data included Body Mass Index (BMI) and 31 weight-related medical problems (Co-morbidities). The diagnosis of obesity co-morbidities was according to BOLD clinical definitions (DeMaria, SOARD 6 (2010) 347–355). Outcomes analysis used General Linear Models that included baseline and post-operative data, and were modified for binomial distribution of dichotomous variables.

**Results:** At 12 and 24 months, follow-up populations for Females/Males were 1030/353 and 121/43, respectively. Female/Male BMI was  $46+8/50+10$ ,  $33.8+7/35.2+7$ , and  $33+7/35+7$  at baseline, 12, and 24 months after SG, respectively ( $p<0.0001$ ). At 12 months post-SG, women had higher rates of cholelithiasis, GERD, asthma, mental health diagnosis, depression, psychological impairment, and stress urinary incontinence ( $n=7$ ;  $p<0.01$ ). Men more frequently had congestive heart failure, diabetes, hypertension, obesity hypoventilation syndrome, and obstructive sleep apnea ( $n=6$ ;  $<0.01$ ). Abdominal hernia, liver disease, abdominal panniculitis, back pain, dyslipidemia, lower extremity edema, musculoskeletal pain, peripheral vascular disease, pulmonary hypertension, alcohol, tobacco, or substance abuse, and support group attendance did not vary by sex. At 24 months, the incidences of cholelithiasis ( $p=0.056$ ), mental health diagnosis ( $p=0.057$ ), GERD, depression, and psychological impairment ( $p<0.05$ ) were higher among women. Men experienced higher 24 month incidences of diabetes, obstructive sleep apnea, and lower extremity edema ( $p<0.05$ ). No other co-morbidities varied significantly at 24 months.

**Conclusions:** Outcomes after sleeve gastrectomy vary significantly, women versus men. Asthma, gastric/biliary problems, and mental health issues affect post-SG women more frequently than men. Diabetes, gout and cardiopulmonary problems persist more frequently in men than women. The advance clinical knowledge that these results provide may increase the

anticipatory index of suspicion for medical problems, enabling early intervention/planning, and thereby optimizing outcomes from SG.