

Change in cardiovascular risk factors following bariatric surgery for obesity – First Sri Lankan experience

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Introduction

- Obesity is associated with increased prevalence of cardiovascular(CV) risk factors and mortality and the CV risk factors are known to reduce following bariatric surgery¹.
- Studies have shown a substantial improvement in lipid abnormalities and risk for CAD, which persists for at least 5 to 10 years after bariatric surgery²
- The aim of this analysis was to determine the effect of bariatric surgery on CV risk factors and CV risk scores.

Objectives

- To assess the cardiovascular risk factors among the patients with obesity.
- To assess the change in cardiovascular risk factors following sleeve gastrectomy among patients with obesity.

Methodology

- A prospective analytical study of the first 15 consecutive patients who underwent laparoscopic sleeve gastrectomy (LSG) procedure for obesity from 2009 to 2011 in Colombo.
- Patients with BMI ≥ 40 without comorbidities and BMI ≥ 35 with comorbidities, who have failed medical therapy and/or lifestyle interventions, were offered laparoscopic sleeve gastrectomy.
- Body weight, BMI, systolic (SBP) and diastolic (DBP) blood pressures and lipid profile were recorded preoperatively and repeated at 6 months, 9 months and 12 months following surgery.
- CV risk was calculated using Framingham's CV risk score.

Results

- Among the studied fifteen patients, 14 were females and one was male.
- Mean age was 40.07+/- 10.93
- Pre operatively 9 patients (60%) had dyslipidaemia and 7 (46.7%) had diabetes mellitus and 7 (46.7%) had hypertension (HT).
- Five (33.3%) were found to have Impaired Glucose Tolerance (IGT).

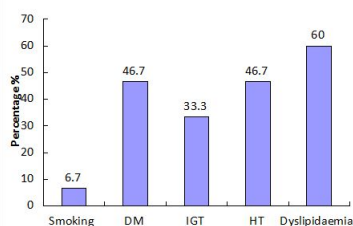


Figure 1 : Cardiovascular risk factors before surgery

- Preoperative mean Body Mass Index (BMI) was 45.1+/-8.09 and showed a 30.6% reduction ($p < 0.001$) after one year following surgery.

- SBP showed a 11.2% reduction ($p < 0.01$) and DBP reduction was 14.5% ($p < 0.01$).

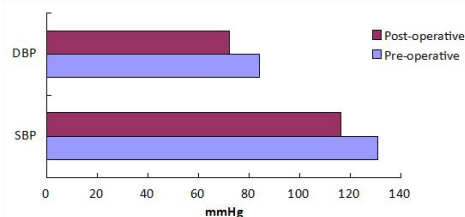


Figure 2 : Change in mean systolic and diastolic blood pressures one year following sleeve gastrectomy for obesity

- Mean Triglyceride (TG) level showed a 21.1% reduction ($p < 0.05$) and HDL cholesterol (HDL-C) level showed a 12.1% rise after one year from bariatric surgery.

- Total Cholesterol and LDL cholesterol levels did not show a significant reduction.

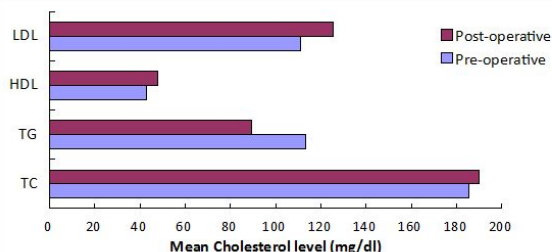


Figure 3 : Change in mean cholesterol levels one year following sleeve gastrectomy for obesity

- CV risk score showed a 17.3% mean reduction at one year follow up, which was not statistically significant.

Conclusions

- Cardiovascular risk factors, SBP, DBP, TG and HDL-C showed significant improvement 12 months following bariatric surgery.

- CV risk score showed a statistically non significant reduction after one year following bariatric surgery.

References

1. Batsis JA, Sarr MG, Maria L. Collazo-Clavell, et al. Cardiovascular risk after bariatric surgery for obesity. American Journal of cardiology 2008; 102(7):930-937.
2. AACE/TOS/ASMBS Bariatric Surgery Guidelines, Endocr Pract. 2008;14(Suppl 1)