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Cardiovascular risk reduction after laparoscopic adjustable gastric banding

Category: Outcomes from Bariatric Surgery

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INTRODUCTION: Obesity is an independent risk factor for development of cardiovascular disease (CVD). Bariatric surgery is a durable and effective strategy for weight loss, and results in reduction in cardiovascular risk factors and absolute cardiovascular risk.

AIM: This study aimed to determine the amount of weight loss required following laparoscopic adjustable gastric band (LAGB) in order to reduce absolute global CVD risk, as measured by the Framingham Risk Equations (FRE).

METHOD: This was a prospective cohort study of obese patients with metabolic syndrome, who underwent a primary LAGB procedure. Patients were followed up every three months for 24 months post-surgery. We used both forms (biochemical and office based) of the new FRE to calculate 10-year absolute global CVD risk. We compared reduction in CVD risk at 5% intervals of total body weight loss (TBWL).

RESULTS: Seventy-three patients were included. Cardiovascular risk calculated by the biochemical based FRE decreased significantly from a baseline of 17.39% to 12.22% ($p = 0.027$) at 15-20% TBWL. This was consistent with calculations using the office based FRE, which also showed a significant decrease in risk at 15-20% TBWL, from 24.96% to 16.33% ($p = 0.032$). This corresponded to a decrease in mean BMI from 42.15 kg/m² at baseline to 34.87 kg/m² ($p < 0.0001$).

CONCLUSION: A > 15% decrease in TBWL after LAGB surgery results in a significant reduction 10-year cardiovascular risk calculated by the Framingham risk equations.

