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Prevention

COMPARATIVE EFFECTIVENESS FOR BARIATRIC SURGERY: CARDIAC RISK FACTOR REDUCTION

Poster Contributions

Poster Sessions, Expo North

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Introduction: Obesity increases cardiac risk while bariatric surgery is known to lessen cardiac risk burden. Currently, 3 weight loss surgical options exist; however, the comparative effectiveness of each surgery as related to cardiac risk reduction is not known.

Methods: Pre-op and twelve-month data were prospectively collected for 1,398 consecutive surgeries (1152 Roux-en-y Gastric Bypass (RNYGB), 132 gastric banding (GB), and 114 sleeve gastrectomy (SG). Cardiac Risk Factors were obtained at baseline and twelve months after surgery and included BMI, waist circumference, Blood Pressure, Framingham Risk Score, hemoglobin A1C, fasting insulin, HDL cholesterol, LDL cholesterol, total cholesterol, triglycerides, high sensitivity C-reactive protein, homocysteine, and lipoprotein(a). All statins were discontinued post-op. Among surgery types, percent improvements and dichotomous variables were compared by one-way ANOVA and chi squared analysis respectively, using STATA software.

Results: At twelve months, a 77.1% follow-up rate was noted. RNYGB patients were younger, of higher BMI, and possessed a greater number of comorbidities. Twelve months after surgery, those who underwent gastric bypass achieved significantly greater percent excess weight loss (75.1%) compared to both band (42.1%) and sleeve (55.7%). A majority of risk factors varied significantly among surgery types. Notably, differences in fasting insulin were observed among surgery types, with 67.0% improvement for gastric bypass, 32.6% for band, and 63.7% for sleeve. C-reactive protein showed 67.1% improvement for gastric bypass, 21.2% for band, and 26.3% for sleeve. Furthermore, the ratio of triglycerides to HDL, a predictor of metabolic syndrome, was differentially improved among surgery types: 38.5% in gastric bypass, 20.6% in band, and 35.2% in sleeve.

Conclusion: All bariatric procedures demonstrated considerable post-op reductions in weight and overall cardiovascular risk. Nevertheless, RNYGB showed significantly more improvement in every studied cardiovascular risk factor. Gastric bypass also achieved the lowest average BMI at 12-months, despite patients being of higher average BMI pre-operatively.