Introduction

Although bariatric surgery is the most effective treatment for morbid obesity, a substantial minority of patients fail to achieve or maintain a satisfactory level of weight loss. It is unknown whether substance use disorder (SUD) subsequent to bariatric surgery negatively impacts weight loss outcome. This question may be of particular importance given the recent finding that surgery negatively impacts weight loss outcome. It is unknown whether substance use disorder (SUD) subsequent to bariatric surgery negatively impacts weight loss outcome.

Method

PARTICIPANTS/ PROCEDURES:
The sample consisted of 39 newly admitted inpatients at a Midwestern substance abuse detoxification and rehabilitation hospital with a history of Roux-en-Y gastric bypass (RYGB) surgery. Post-bariatric patients were identified during the admission history and physical, during which weight and height were measured. Preoperative weight and current diagnoses were obtained through a questionnaire and a chart review, respectively. Participants had a mean age of 45.9 ± 9.2 years, and the majority were female (71.8%) and Caucasian (92.3%).

%EWL was defined as (preoperative weight - current weight) / amount of excess weight at time of surgery * 100.

Surgical failure was defined as < 50% EWL.

Relapers reported a pre-surgical history of heavy substance use (n = 15, 38.5%).

New onset users (NOUs) denied a pre-surgical history of substance abuse (n = 24, 61.5%).

Results

Participants yielded an average %EWL of 75.3 ± 23.8% (corresponding to a mean total body weight change of -37.5 ± 11.2%) at 6.4 ± 3.2 years post-surgery. Six participants (15.8%) met criteria for surgical failure. There was a significant inverse correlation between %EWL and average number of alcoholic drinks per day in the group of participants with only alcohol use diagnoses (r = -.49, p = .03), but not in the group with mixed (i.e. alcohol and drug) diagnoses (r = .05 p = .91). There was a trend toward lower %EWL in participants with only alcohol use diagnoses when compared to those with drug only or mixed diagnoses (68.4 ± 22.1% vs. 83.1 ± 24.5%, p < 0.07). There was also a trend towards greater number of alcoholic drinks per day consumed by participants with only alcohol use diagnoses compared with those with drug only or mixed diagnoses (20.4 ± 7.6 vs. 10.3 ± 12.5, p < 0.06).

Preoperative BMI and %EWL were inversely correlated, although this correlation did not reach significance (r = -.25, p = 0.13). %EWL did not differ significantly by sex or relapser/NOU status, and was not significantly correlated with age at the time of surgery (r = 0.05, p = 0.77).

Discussion

The %EWL achieved by the total sample is comparable to the 66-77% EWL reported in the general RYGB population literature at 4-8 years post-surgery (Christou, Look, & McClain, 2006; Kofman, Lent, & Swencionis, 2010; Valezi, Mali, Junior, de Menezes, de Brito & de Souza, 2010). The surgical failure rate in this sample (15.8%) is somewhat higher than that reported in the general RYGB literature by some (e.g. 7.1%; Valezi, Mali, Junior, de Menezes, de Brito & de Souza, 2010) but lower than that reported by others (e.g. 41%; Kruseman, Leimgruber, Zumbach, & Golay, 2010). Contrary to expectation, results suggest that substance use disorder subsequent to RYGB surgery is not associated with poor long-term postsurgical weight loss outcome.

Little is known about the role of alcohol consumption in weight change, as findings have been inconsistent. Gastric bypass patients comprise a unique population in which to study this question since this type of surgery is associated with reduced absorption of calories and impaired alcohol metabolism marked by higher and more quickly occurring peak blood alcohol values (Woodard, Downey, Hernandez-Boussard, & Morton, 2010). In this study, mean number of alcoholic drinks consumed per day was inversely correlated with %EWL in those with only alcohol use diagnoses. Despite the high caloric content of mean daily alcoholic beverages consumed by this group (20.4 drinks = roughly 2040 calories), however, the average %EWL yielded by the alcohol only group (68.4%) is within the typical range of rates of EWL reported in the general RYGB literature. Potential contributors may include impaired appetite associated with alcohol dependence and an increase in resting metabolic rate immediately following the consumption of alcohol, as was found among a group of young, female social drinkers (Klesges, Mealor, & L. Klesges, 1994). Future research should evaluate these metabolic factors.

Study limitations include the lack of a control group matched on variables known to be related to weight loss outcome in RYGB patients (e.g. age, race, and preoperative BMI). Future studies (prospective or matched-controlled) are needed to clarify the relationship between postoperative substance use disorders and weight loss outcome in bariatric surgery patients.
Is Substance Use Disorder Subsequent to Bariatric Surgery Related to Weight Loss Outcome?

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References


