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Original article

High-risk alcohol use after weight loss surgery

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Abstract

Background: Bariatric or weight loss surgery (WLS) may alter alcohol metabolism resulting in a higher prevalence of problem drinking postoperatively. Few studies distinguish those who report improvements in drinking from those who report worsening behavior after surgery. The objective of this study was to characterize high-risk alcohol use before and after WLS and according to surgery type.

Methods: We interviewed patients before and annually after WLS. High-risk alcohol use as assessed via a modified version of the Alcohol Use Disorders Identification Test-Consumption.

Results: Of 541 participants who underwent WLS, 375 (69% retention) completed the 1-year interview and 328 (63% retention) completed the 2-year interview. At 1 year, 13% reported high-risk drinking compared to 17% at baseline, $P = .10$; at year 2, 13% reported high-risk drinking compared to 15% at baseline, $P = .39$; 7% and 6% of patients, respectively, reported new high-risk drinking at 1- and 2-year follow-up. At both follow-up time points, more than half of those who reported high-risk drinking at baseline no longer did so. A larger proportion of gastric bypass patients (71%) reported amelioration in high-risk drinking than gastric banding (48%) at year 1, but this difference did not reach statistical significance ($P = .07$); the difference largely dissipated by year 2 (50% versus 57%).

Conclusion: Although 7% of patients report new high-risk alcohol use 1 year after WLS, more than half who reported high-risk alcohol use before surgery discontinued high-risk drinking. (Surg Obes Relat Dis 2014;■:00–00.) © 2014 American Society for Metabolic and Bariatric Surgery. All rights reserved.

Keywords:

Bariatric surgery; Roux-Y gastric bypass; Gastric banding; Alcohol

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Anecdotal and limited empiric data suggest a high prevalence of high-risk drinking after bariatric or weight loss surgery (WLS) [1–3]. Its mechanisms are poorly understood, but emerging evidence suggests that certain bariatric procedures produce an accelerated rate of absorption to alcohol [4–6]. In prior studies, increased risk of

high-risk drinking after WLS appeared to be primarily observed in patients who underwent gastric bypass, but not gastric banding [7,8]. Physiologic studies by Woodard et al. [4] suggest that patients who undergo gastric bypass have peak breath alcohol content after drinking a measured 5-oz alcohol dose that is higher at 3- and 6-months postoperatively than preoperatively. Moreover, patients took longer to return to sobriety after alcohol intake. More recently, a similar study on 9 patients found no changes in peak alcohol content before or 3 months after gastric banding [9]. Because these were separate studies where alcohol dosing was not body mass index (BMI)-adjusted, whether the difference in weight loss between the 2 procedures may have partially explained this difference is unclear. Others postulate an “addiction transfer” model to explain the high risk of alcohol misuse after WLS, whereby obese individuals who might have used food as a coping mechanism substitute alcohol for food after WLS [4,10].

Multiple early reports raised concerns that patients may be at an increased risk for developing an alcohol use disorder after WLS [1,2,7,8,11]. However, many of these early clinical studies had small sample sizes or very low retention rates, or more importantly did not assess alcohol use at baseline; thus, it was unclear whether disordered alcohol use after WLS was a new condition as opposed to pre-existing [1,2,7,8,11]. Perhaps the most robust clinical data to date come from the Longitudinal Assessment of Bariatric Surgery (LABS) consortium [7], which assessed alcohol use systematically using a self-administered Alcohol Use Disorders Identification Test (AUDIT). The study found that alcohol use disorder symptoms were not increased at 1-year overall (7.6% versus 7.3% at baseline) but were significantly higher at 2 years (9.6%, $P < .01$). As with most prior studies, LABS focused on overall risk and did not report on reductions in alcohol misuse postsurgery, potentially missing positive effects that bariatric surgery may have on alcohol use. Overall risk of high-risk drinking may be underestimated in studies that do not account for the possibility that a subset of patients may have resolution of their high-risk drinking after WLS. In a prior study, we found that 16% of patients seeking WLS reported high-risk drinking and that higher-risk drinkers were just as likely as nonhigh-risk drinkers to proceed with WLS despite clinical screening for this behavior [12]. Given the greater clinical attention being paid to caloric intake and substance abuse issues after WLS, we hypothesized that a subset of high-risk drinkers who undergo WLS may actually experience amelioration of their high-risk drinking.

In this context, we systematically characterized high-risk alcohol drinking before and up to 2 years after bariatric surgery to examine the proportion of patients who developed high-risk drinking and those whose high-risk drinking behavior was ameliorated after WLS.

Methods

Study sample and data collection

The Assessment of Bariatric Surgery Study is a longitudinal cohort study of patients who were being evaluated for WLS to understand patient preferences and decision-making in the context of weight loss and WLS. Study patients were systematically recruited from 2 academic WLS centers in Boston, Massachusetts, one of which serves a large racial minority and socially disadvantaged urban population. The 2 most commonly performed procedures at these centers during the recruitment period (2008–2011) were Roux-en-Y gastric bypass (RYGB) procedure and laparoscopic adjustable gastric banding. Eligible patients were aged 18–65 years at recruitment and spoke English. The patients’ physicians permitted us to contact them. Recruitment procedures have been described in detail elsewhere [12]; the overall study participation rate was 70%. The study was approved by the institutional review boards at the respective study sites.

Participants underwent an hour-long telephone interview by trained interviewers at baseline and annually after undergoing WLS. These interviews collected information about demographic and clinical factors as well as information about certain health behaviors including alcohol use. Quality of life (QOL) was assessed via the Impact of Weight on QOL-lite, a 31-item validated obesity-specific QOL measure with reasonably good psychometric properties [13]. These data were collected for research purposes only and were not part of the medical record or shared with clinical providers. A study nurse abstracted co-morbid conditions from the medical record. Details of the data collection have been described previously [12,14]. Of 654 patients who participated, 541 underwent surgery. We previously reported the baseline alcohol use of the 654 patients seeking WLS [12]. Our present study focuses only on patients who underwent WLS.

Alcohol use and high-risk drinking

We assessed alcohol use and high-risk drinking at baseline and follow-up telephone interviews using a modified version of the Alcohol Use Disorder Identification Test-C (AUDIT-C) [15]. The AUDIT-C is a 3-item alcohol screen that identifies persons who are hazardous drinkers or have active alcohol use disorders. It is modified from the validated 10-item AUDIT questionnaire [16], but performs better in identifying heavy drinkers and performs comparably in identifying heavy drinkers and those with active alcohol use or dependence [15]. The AUDIT-C assesses frequency of drinking over the past year, usual quantity of intake on a typical day, and binge drinking over the past year. We modified the third item to reflect binge drinking (5 drinks or more) in the previous month to improve accuracy in reporting in the context of a telephone interview and to

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