

Sensitivity to Alcohol in Obese Patients: A Possible Role for Food Addiction

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In the article, "Impaired alcohol metabolism after gastric bypass surgery: a case-crossover trial," Woodard and colleagues¹ raise the important issue of considering the postoperative sensitivity to alcohol in patients who have undergone gastric bypass surgery. The authors warn that caution should be used when consuming alcohol because patients with postoperative bariatric surgery respond differently, both physically and psychologically, in that they are more sensitive to the effects of low doses of alcohol.

Although physiologic factors such as altered absorption and time to the brain are important, other factors may contribute to the sensitivity to alcohol seen in these patients. If drugs and food compete in the brain for the same reinforcement sites, abstinence from one may make abuse of the other more likely. Many morbidly obese patients undergoing gastric bypass surgery may meet clinical criteria for a pathologic attachment to palatable food, which, in some, can manifest as an "addiction" to food.^{2,3} Preclinical literature suggests that overeating of palatable foods can result in behaviors and brain changes that are like those seen in addiction,⁴ with animals self-administering sucrose in a binge-type manner that results in morphine-like withdrawal precipitated by naloxone or spontaneously by fasting. Cross-sensitization to drugs of abuse has been noted, with animals that overeat sugar showing locomotor sensitivity to a low dose of amphetamine. Moreover, of particular interest to this paper is the finding that rats dependent on sugar also show a proclivity to consume alcohol. These findings are supported by a growing literature documenting comorbidity and overlapping neural circuitry associated with obesity and substance abuse.

Due to the abrupt changes in eating behavior that follow these operations, patients may begin to derive pleasure from other reinforcers, such as alcohol or drugs of abuse. Although use is not often seen in morbidly obese patients, after-surgery abuse may be more common, possibly through sensitization to the reinforcing effects of substances of abuse. This has been suggested in other studies, which point to other addictions

(eg, narcotic addiction) postoperatively in patients undergoing gastric bypass surgery.⁵ Further, concern over other potential addiction (eg, drug and alcohol) has been found to be positively associated with weight regain in these patients after surgery.⁶ So, in addition to the pharmacologic and other changes that can increase alcohol sensitivity postsurgery, surgeons should also consider the sensitivity to alcohol and other drugs of abuse that may result from previously unrecognized food addiction.

REFERENCES

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Disclosure Information: Nothing to disclose.

Reply

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I appreciate Drs Avena and Gold's letter in response to our article, "Impaired alcohol metabolism after gastric bypass surgery: a case-crossover trial."¹ Our article focused strictly on physiologic changes in alcohol metabolism after Roux-en-Y gastric bypass, namely, higher peak breath alcohol levels and longer time to zero breath alcohol levels after alcohol ingestion. Drs Avena and Gold raise the intriguing question of food addiction and addiction transfer in their letter. Although they cite animal studies supporting the concept of food addiction, food "addiction" in humans remains to be established fact. Unlike addictions for nicotine and narcotics, in which abstaining is an option, food abstinence is not possible because food is integral to life. Our relationship to food is highly complex,