# Unconscious food cravings may make bariatric surgery less effective for extreme obesity

March 31 2020

Patients with extreme obesity are prone to unconscious food impulses and cravings that may make it challenging for them to maintain weight loss after bariatric surgery, according to research that was accepted for presentation at ENDO 2020, the Endocrine Society's annual meeting, and will be published in a special supplemental section of the *Journal of the Endocrine Society*.

The most effective treatment for severe obesity is bariatric, or weight loss, surgery. People whose body mass index is above 50 kg/m2 meet the criteria for superobesity. Individuals with superobesity seem to be more prone to regain weight following a period of apparent success after bariatric surgery, according to lead researcher Rogerio Friedman, M.D., Ph.D. of Hospital de Clínicas de Porto Alegre in Porto Alegre, Brazil. "The proportion of patients who regain weight after a variable time following bariatric surgery can be as high as 20%," he said.

Friedman and colleagues wanted to find out whether behavioral and cognitive factors before and after bariatric surgery might explain the differences in weight regain. "The intake of food is regulated by brain centers that control appetite and satiety," he said. "Part of our intake is the result of automatic responses, and part comes from conscious, deliberate choices."

The researchers focused on attentional bias, the tendency to pay

attention to some things while simultaneously ignoring others. Previous research has found that attentional bias is associated with binge eating and emotional eating, and it can contribute to obesity. "Attentional bias also happens in smokers, and people who abuse drugs and alcohol," Friedman said.

The study included 59 people four years after they had received Roux-en-Y gastric bypass surgery. Half of them had superobesity. The researchers measured attentional bias through a computerized task, where individuals had to indicate the direction of an arrow that appeared immediately after selected images were shown. If a person had a greater number of correct responses for food images, they were determined to have an attentional bias for visual food clues.

The study measured two types of attentional bias: pre-conscious and conscious. "The pre-conscious part or our attention is that millisecond when our eyes are caught by something before we even realize it. It's is highly automatic," Friedman said. Conscious attentional bias lasts long enough for a person to become aware of it. "You realize the image is there, and you have time to think about it—you can make a choice," he said.

The study flashed images for 2 seconds to measure conscious attentional bias, and a half second and one-tenth of a second to measure preconscious attentional bias. All patients maintained a conscious attentional bias for food (meaning that they knew the image was catching their attention), but only the patients with superobesity also had a preconscious attentional bias—the image caught their attention before they even realized it. "This may be a predisposing factor to weight regain," Friedman said.

"The findings suggest that the same cognitive processes that operate in addiction are present in morbid obesity as well," he said. "Cognitive and

behavioral phenomena are behind many aspects of obesity; they remain present after bariatric surgery and may at least in part explain the failure of different treatments. As long as our treatment approach keeps failing to address such phenomena, we may be far from successfully controlling the disease."

Provided by The Endocrine Society