

## Change of Taste Preference after Bariatric Surgery

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**Abstract :** Introduction: Many patients have described changes in taste perception after weight loss surgery. However, little data is available about short term changes in taste after surgery. Aim: We aimed to evaluate short-term changes in taste preference after bariatric surgeries in comparison to colorectal surgeries. Material and Methods: Between April 2018 and April 2019, a total of 121 bariatric patients and 63 controls participated. Bariatric patients underwent laparoscopic sleeve gastrectomy or Roux-en-Y gastric by-pass. Controls underwent oncological colorectal surgeries. Patients who developed clinical complications requiring restriction of oral intake after surgery or withdraw their consent were excluded from the study. In the end, 85 bariatric patients and 44 controls were included. In all of them, the 16-item ERAS Protocol was applied. Using 10-points Numeric Rating Scale (1-10) patients completed questionnaire and rated their appetite and thirst (1 - no appetite/not thirsty, 10 - normal appetite/very thirsty) and flavoured standardized liquids' taste (1- horrible, 10-very tasty) and food images for the 6 group of taste (sweet, umami, sour, spicy, bitter and salty) (1 - not appetizing, 10 - very appetizing) preoperatively and on the first postoperative day. Data were analysed with Statistica 13.0 PL. Results: Analysed group consist of 129 patients (85 bariatric, 44 controls). Mean age and BMI in a research group was 44.91 years old, 46.22 kg/m<sup>2</sup> and in control group 62.09 years old, 25.87 kg/m<sup>2</sup>, respectively. Our analysis revealed significant differences in changes of appetite between both groups (research:  $-4.55 \pm 3.76$  vs. control:  $-0.85 \pm 4.37$ ;  $p < 0.05$ ), ratings bitter (research:  $0.60 \pm 2.98$  vs. control:  $-0.88 \pm 2.58$ ;  $p < 0.05$ ) and salty (research:  $1.20 \pm 3.50$  vs. control:  $-0.52 \pm 2.90$ ;  $p < 0.05$ ) flavoured liquids and ratings for sweet (research:  $1.62 \pm 3.31$  vs. control:  $0.01 \pm 2.63$ ;  $p < 0.05$ ) and bitter (research:  $1.21 \pm 3.15$  vs. control:  $-0.09 \pm 2.25$ ;  $p < 0.05$ ) food images. There were statistically significant results in the ratings of other images, but in comparison to the control group, they were not statistically significant. Conclusion: The study showed that bariatric surgeries quickly decreases appetite and desire to eat certain types of food, such as salty. Moreover, the bitter taste was more desirable in the research group in comparison to control group. Nevertheless, the sweet taste was more appetible in the bariatric group than in control.

**Keywords :** bariatric surgery, general surgery, obesity, taste preference

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