

Does smell change immediately after bariatric surgery?

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Introduction

Number of bariatric procedure performed increases every year in Europe and worldwide. Well balanced nutrition is a key factor in recovery after surgery and postoperative results. Diet preferences consider not only flavor but also olfactory stimuli. Long-term smell change has been well described previously. However there are no data about short-term postoperative smell alteration. Our aim was to investigate whether smell changes shortly after bariatric surgery. Observation of olfaction alteration immediately after surgery may lead to improvement of postoperative care.

Material and methods

The Study enrolled 55 patients undergoing Laparoscopic Sleeve Gastrectomy (LSG) or Laparoscopic Roux-Y Gastric Bypass. Patients’ smell sense was tested qualitatively and quantitatively using Sniff Sticks Test day before surgery and 24 hours after surgery. Sniff Stick Test is an objective and widely accepted method of smell testing. It consists of 3 subtests, the maximum result from each one is 16 points. First verify sensitivity and odour threshold, second discrimination and third smell identification.

Results

Table 1. Demographic analysis of patient group	
Parameter	Data
Number of patients, n	55
Females, n (%)	29 (52.73%)
Males, n (%)	26 (47.27%)
Median age, years (IQR)	46 (38-54)
Mean BMI, kg/m² ± SD	45.45 ± 5.05
Mean Maximal BMI, kg/m² ± SD	48.39 ± 6.04
LSG, n (%)	40 (72.73%)
LRYGB, n (%)	15 (27.27%)
Smoking, n (%)	12 (21.82%)
Hypertension, n (%)	38 (69.09%)
Diabetes, n (%)	22 (40.0%)
Dyslipidemia, n (%)	13 (23.64%)
NAFLD, n (%)	14 (25.46%)
Obstructive sleep apnea, n (%)	19 (34.55%)

Conclusions

The result of the test confirming the sensitivity and smell threshold had a significantly lower score after the procedure. Moreover total Sniff Sticks Test results were significantly lower postoperatively.

Table 2. Sniffin’ Sticks tests results			
Parameter	Preoperative test	Postoperative test	p value
Median Subjective olfactory evaluation, points (IQR)	2 (1-2)	2 (1-2)	0.1578
Median Sensibility test, points (IQR)	8.5 (6.5-13.0)	8.0 (6.25-9.25)	0.0182
Mean Discrimination test, points ± SD	9.49 ± 2.93	8.96 ± 2.61	0.2770
Median Identifying test, points (IQR)	14 (12-15)	14 (13-15)	0.5730
Median Sum total of tests, points (IQR)	32.25 (29.0-36.5)	32.0 (29.0-33.0)	0.0401



Fig. 1 Sniffin’ Sticks Tests