

measurements. The dietary inflammatory index (DII) was computed using 24-hour recalls. Lower DII scores indicate a lower inflammatory potential of the diet. It was also reported that the DII score could take on values ranging +8 (maximally pro-inflammatory) to –9 (maximally anti-inflammatory). A fourteen-item dietary screener was used to assess adherence to the Mediterranean diet (MeDiet). Each item is worth 0 or 1 point. Higher scores reflect higher adherence. Anthropometric measurements, including height, body weight, waist circumference (WC), hip circumference (HC) and neck circumference were evaluated according to standardized protocols. Partial correlation coefficient was used to assess the relationship between DII, adherence to the MeDiet and some anthropometric variables controlling for energy intake. Statistical significance was accepted as $p < 0.05$.

Results: The mean DII score was 1.24 ± 1.50 (min: –2.97, max: 4.75), whereas score of adherence to the MeDiet was 6.04 ± 2.36 (min: 0.0, max: 13.0). DII showed significant positive correlation with body weight ($r = 0.097$, $p = 0.005$), WC ($r = 0.082$, $p = 0.018$) and waist-hip ratio ($r = 0.113$, $p = 0.001$), while adherence to the MeDiet showed significant negative correlation with body weight ($r = -0.096$, $p = 0.005$), waist-hip ratio ($r = -0.081$, $p = 0.020$) and neck circumference ($r = -0.172$, $p = 0.000$). In addition, there was a significant negative correlation between DII and adherence to the MeDiet ($r = -0.100$, $p = 0.004$).

Conclusions: An enhancement of dietary inflammatory potential with better adherence to a MeDiet would improve the cardiometabolic profile by supporting obesity management.

Disclosure of Interest: None declared.

SUN-PO284

THE ASSOCIATION BETWEEN DIETARY PROTEIN INTAKE AND FAT FREE MASS SIX MONTHS AFTER ROUX-EN-Y GASTRIC BYPASS: A CROSS SECTIONAL STUDY

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Rationale: Roux-en-Y gastric bypass (RYGB) is the most effective treatment for morbid obesity. One of the side-effects of RYGB is loss of fat free mass (FFM). The preservation of FFM during weight loss (WL) can be stimulated by high protein intake combined with resistance training. However, it remains unclear whether this also applies to patients undergoing RYGB. The aim was to examine the association between dietary protein intake (DPI) and FFM six months post-operative in patients undergoing RYGB correcting for the potential distorting effect of physical activity.

Methods: This cross-sectional study included patients who underwent RYGB at the Maastad Hospital. Data were collected at the outpatient clinic five to seven months postoperative. Collected data consisted of sociodemographic variables, three-day food diaries, body composition measured by bio-electrical impedance analysis, anthropometric variables and information regarding physical activity. Multiple linear regression analysis was used to investigate the association between DPI and percentage FFM (%FFM).

Results: 76 patients (80.3% women; mean age 46.1 ± 9.8 years) were included. Only 44.7% of the patients met the general protein recommendation of ≥ 60 grams per day. There was a significant difference in %FFM between patients consuming < 80 grams of protein and patients consuming ≥ 80 grams of protein (67.4% vs. 72.4%; $p = 0.035$). There was no difference between patients consuming < 60 grams of protein compared to patients consuming ≥ 60 grams of protein. DPI was not significantly associated with %FFM in linear regression analysis six months after RYGB corrected for physical activity, gender, % excess WL, energy intake and preoperative BMI ($\beta = 0.006$; $p = 0.872$).

Conclusions: Low DPI after RYGB was common in this study. There was no significant association between DPI and %FFM six months after RYGB after correction for confounding.

Disclosure of Interest: None declared.

SUN-PO285

IMPLICATION OF THE GUT MICROBIOTA IN PERSONALIZED METABOLIC RESPONSE TO DIETARY INULIN IN OBESE PATIENTS

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Rationale: Dietary supplementation with inulin as a prebiotic has been shown to lessen obesity and related metabolic disorders in some individuals. Using mice transferred with the fecal microbiota from obese patients, we have addressed the following question: do the characteristics of the gut microbiota in obese individuals explain the different physiological response to prebiotics?

Methods: The gut microbiota of four-week old mice was depleted using antibiotics. C57BL/6J Mice were then colonized with stools from one of the four human obese patients (hum-ob) selected for different gut microbiota composition. Conventional and hum-ob mice were then fed with a high-fat diet (HFD) during four additional weeks, supplemented or not with native inulin (Cosucra) (6–9 mice per group).

Results: We demonstrated a different response to inulin supplementation in hum-ob mice upon a HFD. Inulin supplementation largely reduced the body weight of hum-ob mice for only one donor ($p < 0.05$). Inulin significantly reduced hepatic steatosis (lipids and triglycerides content), as well as the increased adiposity induced by HFD for two donors. Despite an increased cecal content – signing gut fermentation – observed in all humanized mice, the regulation of the gut microbiota by inulin differs between donors. The model of hum-ob mice allowed us to point out new bacteria associated to the metabolic response to inulin. In addition, some bacterial genera (*Barnesiella*, *Victivallis*, *Akkermansia*...) are correlated with the observed metabolic outcomes in hum-ob mice. Interestingly, most of these bacteria seems to be involved in the differential response by inulin observed in a clinical trial with obese patients (NCT03852069).

Conclusions: Our work using a model of gut microbiota transfer from patients into mice highlighted the differential response of humanized mice to dietary supplementation with inulin. We propose that the gut microbiota is an important component to be taken into account for personalized nutrition related to prebiotic dietary fibers in the future.

Disclosure of Interest: None declared.

SUN-PO286

WEIGHT LOSS, REMISSION OF COMORBIDITIES, AND QUALITY OF LIFE TWO YEARS AFTER BARIATRIC SURGERY

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