EP-447 | *Ad libitum* dietary intake in patients with craniopharyngioma: Preliminary data from a feasibility study of eating behaviour

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INTRODUCTION: Craniopharyngiomas are rare tumours of low histological malignancy which arise along the craniopharyngeal duct. Obesity often results from surgical and/or radiotherapy treatment or due to the tumour itself. Mechanisms leading to obesity, hyperphagia and altered energy homeostasis are largely understudied in this rare patient group. The aim of the current study was to assess energy and macronutrient intake when patients with craniopharyngioma were served an *ad libitum* buffet-style meal. This research is part of a larger ongoing feasibility study designed to understand eating behaviour and relevant factors in this patient group.

METHODS: Patients attended the clinical research facility once, accompanied by a parent/guardian. They fasted overnight and underwent tests relevant to eating behaviour and metabolic health, including an oral glucose tolerance test, followed by an *ad libitum* lunch. This was made up of hot and cold, sweet and savoury food and beverages. Hot dishes included macaroni cheese whilst cold items included bread, sandwich fillings, cake, fruit, biscuits and crisps. Beverages were orange juice and water. Each item was covertly weighted to the nearest gram by the investigator before and after the lunch was served. Lunch provided 30 MJ and 37, 49 and 11% energy from fat, carbohydrate and protein, respectively. Patients remained in a room alone for 30 minutes and were asked to eat to appetite. Data are presented as mean and standard deviation (sd), and Spearman's rank correlation was used.

RESULTS: Eight patients with childhood-onset craniopharyngioma took part; age 15.5 (5.0) y, BMI SDS 1.7 (1.8), 4 females. All patients consumed from foods and beverages presented and reported acceptability of the lunch. *Ad libitum* energy intake was 5.24 (1.76) MJ, 56 (18) g fat, 150 (55) g carbohydrate and 31 (16) g protein. When macronutrient intake was calculated as a percentage of total energy intake, patients consumed 40 (4)% from fat, 49 (5)% from carbohydrate and 10 (3)% energy from protein. The correlation between BMI SDS and energy intake was weak (r = 0.1). Intake data are not yet available from control participants who also consumed this test *ad libitum* lunch.

CONCLUSION: These preliminary results demonstrate the acceptability and usability of *ad libitum* lunch methodology to assess energy and macronutrient intake in this patient group. Ongoing collection and analyses of dietary intake data from a control group will allow appropriate interpretation of the data presented. Given that hyperphagia and obesity in children and young people with craniopharyngioma cause substantial personal and parental distress, this study demonstrates the importance of studying eating behaviour in this rare patient cohort with a view to the development of future novel interventions.

EP-448 | New reference values for body composition by bioelectrical impedance analysis in the obese patients: Results from a large cohort

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INTRODUCTION: The use of body composition analysis with impedance techniques in obese patients is actually still debated, despite the widespread use in hospitalization centers for obesity care. Several factors limit the use of bioelectrical impedance analysis as a valid predictor of the amount of body fat free and fat mass (FFM and FM) in morbidly obese individuals and the appropriate cut-offs ranges for resistance, reactance and phase angle in extreme obesity remain to be determined. We then decided to study the variations in BIA assessments on a large cohort of obese patients.

METHODS: We enrolled obese patients undergoing clinical care for obesity and obesity complications at San Giuseppe Hospital Istituto Auxologico Italiano-IRCCS Piancavallo (VB) and elderly obese (>65 years of age) admitted to the Santa Margherita Hospital in Pavia for a total of 11,163 obese patients with age ranging from 18 to 97 years. BIA 101/s (Akern—Firenze, Italy) was used for bioelectrical impedance analysis.

RESULTS: After exclusion of all individuals with missing data, hyperhydrated patients and body mass index (BMI) less than 30 kg/m^2, we collected the values of Resistance (Rz), Reactance (Xc) and Phase angle (PhA) and derived the reference values from 8,303 individuals (44% men; age: 56.6 ± 15.9 years; BMI: 42.6 ± 7.2 kg/m^2, range 30-86.5 kg/m^2). In obese patients, PhA