



## Does metabolically healthy obesity exist? A 32-year-old man with BMI 78 kg/m<sup>2</sup> — to treat or not to treat?

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We present a clinical image of a 32-year-old man with obesity grade III admitted to our clinic to rule out secondary causes of obesity. The patient's body mass index (BMI) was 78 kg/m<sup>2</sup>. The beginning of weight gain occurred in his early childhood. The patient has not been doing regular physical activities for many years. He was diagnosed with hypothyroidism a year before presentation, well-controlled with levothyroxine 50 mcg. On admission, his blood pressure was 145/92 mm Hg, and his heart rate was 80 bpm. Based on 24-hour ambulatory blood pressure monitoring, first-degree arterial hypertension was recognised. The laboratory test results (oral glucose tolerance test, HbA<sub>1c</sub>, fasting insulin, lipids profile, TSH, 1 mg dexamethasone test, cortisol profile, 24-hour urinary free cortisol excretion) were within the reference range. Abdominal ultrasonography revealed liver steatosis, but, surprisingly, his adipose tissue measurements showed no features of visceral obesity. Based on the above, the patient's subtype of obesity was defined as "metabolically healthy obesity" (MHO).

We determined the patient's body composition using the bioimpedance technique (Inbody 370). The measurement was done two times. The patient's height was 166 cm with a total body mass (TBM) of 215.6 kg. TBM consisted of 124 kg of fatty tissue and 91.6 kg of fat-free mass. The total body water (69.5 l), protein (18.1 kg), and minerals (4.00 kg) were out of range. The body fat percentage was 57.5%, but, surprisingly, the visceral fat level was 1 — the lowest value on the measurement scale. The patient's resting metabolic rate has been estimated at 2348 kcal.

Excess body weight is estimated to affect nearly 2 billion people. It has accounted for approximately 4 million deaths and 120 million disability-adjusted life years. Obesity is the main risk factor for coronary heart disease, hypertension, hyperlipidaemia, and type 2 diabetes mellitus (T2D). Obesity is also connected with an increased risk of certain cancers [1]. Contradictory in our case, we present that not every obese patient has to be diagnosed with these comorbidities. The Adult Treatment Panel-III (ATP-III) criteria characterise metabolically unhealthy obesity (MUHO) and MHO. These two types of obesity have different features in their aetiologies and treatments, which may implicate a higher risk for cardiovascular complications among MUHO patients in comparison with MHO patients [2, 3]. However, although in the case of this MHO patient the risk of developing cardiovascular complications is lower, we should be aware of the risks associated with sarcopaenic obesity. Extremely obese patients tend to avoid physical activity, which, together with hormonal changes and inflammation, can lead to sarcopaenia. Sarcopaenic obesity is connected with a higher risk of metabolic syndrome, T2D, and atherosclerosis in comparison to sarcopaenia alone or simple obesity [4]. The patient remains in our outpatient clinic, and regular three-month follow-up visits are scheduled.

The aim of our paper was to present the extremely different features and goals in the treatment of obesity, which is, in our opinion, unfairly perceived as "a cosmetics defect".



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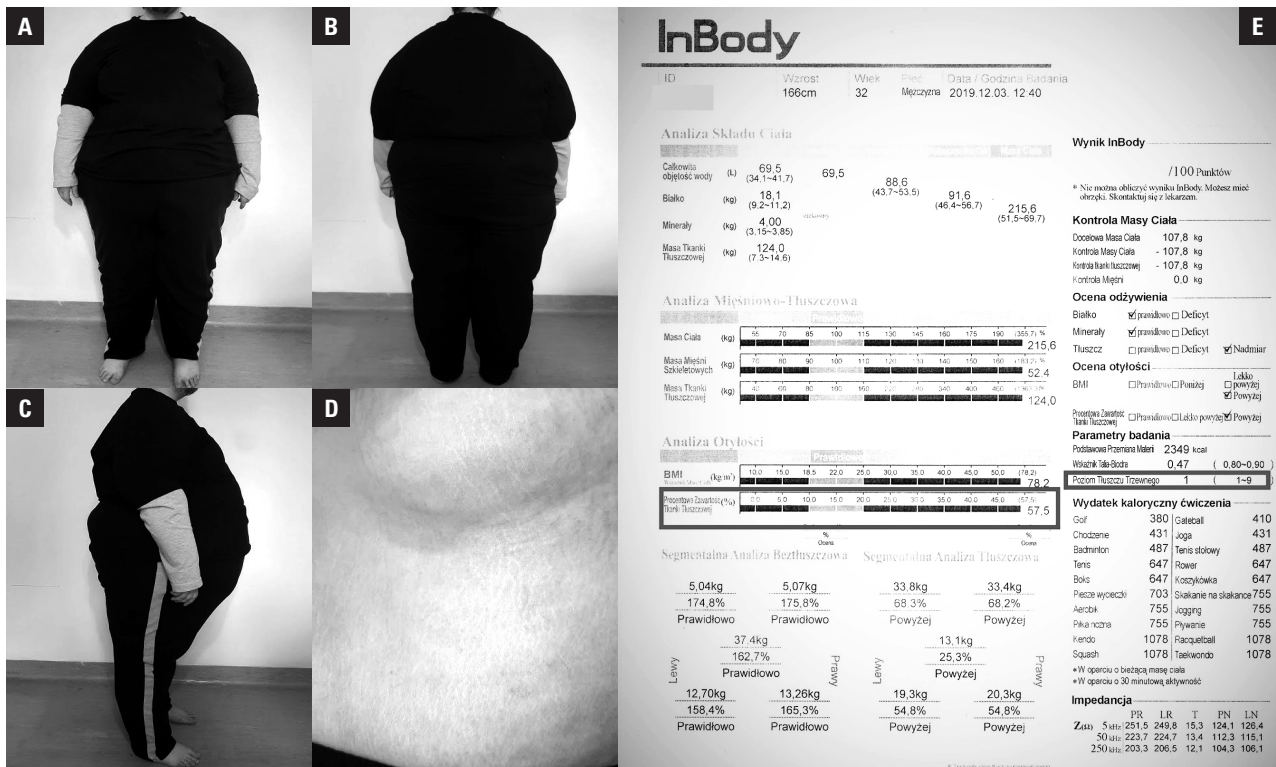


Figure 1. A. Patient in a coronal plane — front. B. Patient in a coronal plane — back; C. Patient in a sagittal plane; D. Stretch marks on the patient's abdomen; E. Patient's body composition analysis

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