

Editorial

Obesities: A New Peer-Reviewed Open-Access Interdisciplinary Journal Fostering Research on Multifactorial Obesity and Associated Cardiometabolic Disorders

Bruno Guigas 

Department of Parasitology, Leiden University Medical Center, Albinusdreef 2, 2333 ZA Leiden, The Netherlands; b.g.a.guigas@lumc.nl; Tel.: +31-71-52-61328

Obesity prevalence has increased continuously over the past 50 years, a dramatic worldwide expansion not only limited to industrialized countries but also observed in a large number of low- and middle-income countries experiencing rapid rural–urban transition [1,2]. This complex and multifactorial disorder is defined by the World Health Organization as abnormal or excessive fat accumulation that presents a risk to health [3]. The most recent data collection indicates that more than a third of the world’s adult population is considered overweight, as defined by a body mass index (BMI) > 25 and ≤ 30 kg/m², and 13% is classified as obese, with a BMI ≥ 30 kg/m² [3]. Furthermore, more than 350 million children and adolescents are currently overweight or obese, constituting a rising group that is going to contribute to further propagation of the obesity pandemic in the near future.

Obesity is a chronic dysfunction of the energy homeostasis system, characterized by an imbalance between the amount of calories consumed and expended, that originates from a combination of genetic, epigenetic, sociocultural, and environmental factors [4,5]. It is worth mentioning that on top of the excess calorie intake, the qualitative composition of the dietary ingredients also plays a key role in the development of obesity and metabolic complications, with overconsumption of highly industrially processed foods being associated with adverse health outcomes [6,7]. Obesity significantly increases the risk for developing a variety of noncommunicable diseases, such as insulin resistance, type 2 diabetes, atherosclerotic cardiovascular diseases, and certain types of cancer [8]. Importantly, although it is well known that sexual dimorphism in fat distribution may explain some of the gender differences in obesity-associated metabolic dysfunctions [9], it remains of utmost importance to better understand how sex-dependent metabolic/hormonal/immune responses to chronic nutrient overload contribute to the disease. Overall, being overweight or obese is generally associated with a decrease in quality of life, resulting from chronic disease morbidity, and with a significant reduction in life expectancy due to increased mortality. However, there is a large variation in the individual risk to develop obesity-associated diseases, leading to the disputed concept of metabolically healthy obesity, where a fraction of obese individuals may have only a minimal increased risk for cardiometabolic diseases [10]. More recently, it has also been reported that overweight/obese people infected with SARS-CoV-2 are more likely to develop a severe form of COVID-19, to be hospitalized in the intensive care unit, and to die than healthy lean individuals of the same age [11,12].

Various therapeutic approaches based on more or less drastic lifestyle modifications involving changes in dietary habits, such as reduction in energy-rich processed foods, and increased daily physical activity have been found to be quite effective in managing overweight and obesity. However, these behavioral and non-invasive strategies are generally insufficient in the long term since individuals who successfully complete weight loss programs usually regain most of their lost weight [13]. As such, other therapeutic approaches using approved medications for chronic weight management and/or based on various types of surgical interventions to reduce stomach size or gastric transit have been shown to



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improve metabolic health and reduce mortality in patients with severe obesity [13]. However, further additions to therapeutic arsenal/strategies are still required to fight against obesity and its detrimental health consequences. As such, trying to decipher novel pathophysiological mechanisms involved in obesity and metabolic disorders might help pave the way for the development of new preventive or therapeutic approaches. For instance, recent exciting advances in the understanding of the crosstalk between the immune system and metabolic cells have provided new paradigms and opportunities. Indeed, a large repertoire of innate and adaptive immune cells present in metabolic organs are involved in obesity-associated metaflammation [14], suggesting that targeted immunomodulatory strategies might be interesting to explore for restoring metabolic homeostasis. Moreover, since obesity has been shown to induce changes in intestinal microbiome [15], strategies to modify gut bacterial composition, using either prebiotics/probiotics supplementation [16] or fecal microbiota transplantation [17], could be explored further as new types of therapies for reversing obesity-associated metabolic dysfunctions.

Obesities is a new peer-reviewed international open-access scientific journal that is dedicated to basic, preclinical, and clinical research on multifactorial obesity and associated cardiometabolic diseases. The journal has the ambition to convey the most novel and relevant developments in the field to the largest audience by publishing both original and review articles, notably on subjects dealing with genetic, epidemiological, dietary, and behavioral interventions, as well as elucidating cellular/molecular mechanisms involved in the peripheral and systemic regulation of metabolic homeostasis in the context of obesity and metabolic disorders. All submitted publications will be evaluated in a fast and fair way by a gender-balanced group of associate editors and invited experts on the various obesity-related domains covered by the journal.

In order to celebrate the birth of *Obesities*, a first Special Issue has been launched, with submission of both original research manuscripts and review articles being encouraged on any relevant subjects linked to the development of novel therapeutic strategies for obesity and cardiometabolic diseases.

Conflicts of Interest: The authors declare no conflict of interest.

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