

## The “Metabolically Healthy Obesity”

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### Editorial

Obesity is a chronic disease, triggered by genetic, hormonal, behavioural and environmental factors that have achieved epidemic proportions worldwide. As a serious public health issue, it is important to comprehend the natural history and pathophysiology of obesity for us to make sure we can adequately prevent and treat it in large scale.

Several studies have demonstrated an increased risk of comorbidities and weight-related complications in obese subjects [1,2]. However, the prevalence of metabolic disturbances are quite variable in obese individuals. A new phenotype of metabolically healthy obesity (MHO) has recently been described, which includes individuals with a body mass index (BMI) greater than 30 kg/m<sup>2</sup> without any components of the metabolic syndrome and possible normal insulin sensitivity [3,4]. This suggests that some patients with excess weight might have some degree of “protection” to metabolic abnormalities.

Despite the controversies on the existence and definitions of MHO, the difference between metabolically healthy and unhealthy obesity might probably be due to “where you deposit your fat”. It is definitely better to accumulate fat in the subcutaneous tissue than in ectopic organs. Visceral fat accumulation leads to cytokine release and chronic subclinical inflammation. It is our belief that greater adipose tissue inflammation contributes to the development of insulin resistance, type 2 diabetes and the metabolic syndrome [3,4].

We also believe that MHO is a transient condition, in between the initiation of obesity itself and its progression to a more advanced disease, with serious and numerous comorbidities such as insulin resistance, impairment in glucose homeostasis, hypertension and atherogenic dyslipidemia [5]. It is certainly not a harmless condition, but actually already associated with increased risk of type 2 diabetes, non-alcoholic fatty liver disease, cardiovascular disease and mortality as compared to metabolically healthy normal weight individuals [6-10].

Longitudinal studies have shown in long term that a significant proportion of the metabolically healthy obese patients become metabolically unhealthy obese subjects over time if nothing is done. A hypothesis to explain this situation is

that subcutaneous adipocyte exceeds its capacity to storage fat and starts accumulating in the viscera [3,4].

Taking all these into consideration, it seems clear to us that patients with MHO need both medical and nutritional attention, counselling for a healthier lifestyle and weight management pharmacological therapy to reverse obesity and prevent or delay weight-related complications [11]. A clinically significant weight loss of at least 5 to 10% of body weight in these subjects should be recommended.

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