Letter to the Editor

The importance of a correct diagnosis of obesity

Dear Editor,

A recent paper highlighted for the first time the presence of normal weight obesity (NWO) in a youth population of Latin American[1], underling, as already demonstrated, the role of body composition[2], muscular fitness levels[3] and adherence to the Mediterranean Diet[4], for the correct evaluation of cardiovascular disease (CVD) risk, due to inflammation and oxidative stress[5].

As underlined in our previous paper[6], obesity, whose prevalence exceeds 60% in the United States, has been recognized as a disease, depending on the expansion of adipose tissue and visceral fat, causing cardiometabolic disorders, organ dysfunction and increased mortality. Hence, it is a priority to diagnose obesity phenotypes[2,7], based on the body composition and genetic profile, to early prevent CVD.

García-Hermoso et al[1] suggested associations between NWO and cardiometabolic and physical fitness parameters in Colombian children and adolescents. Furthermore, the NWO group had significantly higher values of cardiometabolic risk factors, and waist circumference (WC) than the normal weight lean (NWL) group.

Some biases can be highlighted with respect to the definition of NWO and therefore to the results obtained by García-Hermoso et al[1]. The NWO syndrome, described for the first time in the 2006 by De Lorenzo et al[2], was represented by an excess body fat despite a normal body mass index (BMI), and it was called the De Lorenzo Syndrome. The prevalence of NWO Syndrome was around 10% worldwide and NWO men were less than 2% of the affected population[5].

In the population studied by García-Hermoso et al[1], the percentage of girls affected by NWO Syndrome was 47%. Therefore, the number of NWOs observed is decidedly higher compared to other populations. The authors should have distinguished NWO subjects from NWL, based on gender, but above all, on age, considering the hormonal changes in the post pubescent age.

The NWO women, with inflammation and a high risk of CVD, due to the reduction of high-density lipoproteins (HDL)[2], are clearly distinguished from the metabolically obese normal weight (MONW), characterized by normal BMI, an increase of WC and insulin resistance[10]. The subjects with NWO Syndrome do not present the metabolic syndrome[5], despite being genetically predisposed to risk of cardiometabolic dysregulation and cardiovascular mortality rate 2.2 times greater than that of NWL[9].

The authors should have verified the relationship among WC, triglycerides, systolic blood pressure, cardiovascular risk factors and fat mass, in the two different phenotypes, the NWO and MONW, before any conclusion[10].

The importance of a correct obesity diagnosis[2] is fundamental to personalize the nutritional therapy.

Conflict of interest

The authors declare no conflicts of interest.

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