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EDITORIAL

Adipopathy and dysglycaemia in systemic metabolic disease: Towards an integrated multidisciplinary approach led by the endocrinologist

Adipopatía y disglucemia en la enfermedad metabólica sistémica: Hacia un abordaje integral multidisciplinar liderado por el endocrinólogo

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Currently, obesity is considered a chronic, complex, progressive, and relapsing disease, representing a major public health issue. Recently, the European Association for the Study of Obesity (EASO) proposed replacing the term öbesityẅith chronic adiposity-based metabolic disease (CAMD), emphasizing the chronic and heterogeneous nature of this disease while incorporating aspects such as the amount, distribution, and functionality of adipose tissue (AT).[1] A global commission (Lancet Commission) recently published a new obesity classification, endorsed by 58 international experts from various medical specialties, introducing the concepts of c̈linical obesityänd p̈reclinical obesity:.[2] This proposal has sparked controversy and concern among scientific societies, including EASO,[3] due to the potential risks it may pose for obesity management and patient care. Obesity is a chronic disease characterized by low-grade inflammation and adipose tissue dysfunction, factors that may be present long before clinically evident complications arise. The new distinction between clinical and preclinical obesity could downplay the progressive nature of the disease, delaying diagnosis and intervention. Given its pandemic scale, it is crucial for both health care professionals and patients to understand obesity as a chronic condition requiring a comprehensive approach and early treatment. Therefore, the implementation of these new categories should be approached cautiously, ensuring they do not discourage early action or create confusion in clinical management.

Although obesity is defined as an excess of body fat, body mass index (BMI) is used as an indirect marker of this condition. At population level, BMI is a good indicator of obesity, as it correlates with the development of various diseases and all-cause mortality. However, at individual level, BMI does not provide an accurate estimate

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of body fat. Moreover, BMI does not reflect fat type, distribution, or function in the body. Total body fat is more closely linked to metabolic complications than BMI. Visceral fat, for instance, is associated with ectopic adipose tissue dysfunction, which strongly correlates with cardiovascular (CV) and renal disease risk, regardless of BMI categories. For this reason, complementary assessments of ectopic and visceral adipose tissue (VAT) distribution have been integrated, as they are key to metabolic and cardiovascular risk.[4] A strong relationship has been established between CAMD, type 2 diabetes mellitus (T2DM), metabolic dysfunction-associated fatty liver disease (MAFLD), atherogenic dyslipidemia, gynecological conditions (e.g., polycystic ovary syndrome, hypogonadism, gynecological cancer), and systemic inflammatory diseases.[5,6] Increased AT also contributes to biomechanical complications such as obstructive sleep apnea and osteoarthritis. Additionally, sarcopenic obesity—characterized by muscle mass and function loss combined with obesity—exacerbates these complications, increasing the risk of T2DM, cognitive decline, and osteoporosis.[7] Recently, the American Association of Clinical Endocrinologists (AACE) and the American Heart Association introduced the term Cardiometabolic-Based Chronic Disease (CMBCD), highlighting adiposity and dysglycemia as key metabolic drivers. Adipose tissue dysfunction and insulin resistance drive progression toward cardiovascular and renal diseases, while the cardio-renal-metabolic syndrome describes the interactions between obesity, diabetes, kidney disease, and heart disease, influenced by biological, social, and environmental factors.[8]

Given this evidence, it is clear that various diseases (cardiovascular, renal, inflammatory, sarcopenia, and MAFLD) are closely interrelated, with adiposopathy and dysglycemia playing a fundamental role in their pathogenesis and severity.[9] A T2DM diagnosis worsens obesity-related complications. These conditions can be grouped under the concept of m̈ultisystem metabolic disease,ẅhere adipose tissue dysfunction and dysglycemia are central elements.

In clinical practice, obesity- and diabetes-related complications are often managed independently by specialists (cardiologists, nephrologists, gastroenterologists) or endocrinologist-led teams. However, the coexistence of these conditions across multiple organs complicates medical care and therapeutic consensus. Additionally, some health care providers address CAMD with generic or trend-influenced strategies without a deep understanding of its pathophysiology, potentially compromising treatment effectiveness and safety—particularly with pharmacotherapy. This may compromise the safety and efficacy profile of treatment, particularly when using pharmacotherapy, making it essential to adopt a comprehensive and personalized approach for patients with CAMD, including systemic evaluation, screening for associated complications and comorbidities, and coordinated, individualized, evidence-based treatment, while advocating for endocrinologists to play a more active role in detecting, diagnosing, and managing CAMD as the root cause of many complications, with Endocrinology and Nutrition Departments incorporating advanced technologies such as ultrasound, DEXA/BIA, CT, MRI, and elastography, and with endocrinologists leading CAMD management through specialized therapies such as GLP-1/GIP receptor agonists, SGLT2 inhibitors, and lipid-lowering agents, serving as central coordinators in a multidisciplinary approach while consulting other specialists as needed to ensure fully integrated and personalized care.

Treatment should focus on sustained weight loss, prioritizing fat mass reduction while considering individual factors such as sex and sociocultural environment. Adherence to heart-healthy habits (diet and exercise) and appropriate pharmacotherapy are crucial. Evidence shows that significant fat mass reduction lowers complication risks, especially in early-stage obesity. At our center, multidisciplinary units (e.g., heart failure, MAFLD, diabetic kidney disease) include endocrinologists, dietitians, and nurses to implement strategies promoting healthy habits and CV risk factor control through a holistic approach. These units emphasize fat loss while preserving lean (skeletal muscle) mass, screening for complications/comorbidities, and evidence-based pharmacotherapy to reduce morbidity and mortality. We also have a ẗherapeutic kitchen,̈ where hands-on workshops with disease-specific recipes—led by a chef and dietitian—teach culinary skills to individuals with obesity, fostering long-term healthy habits.[10]

Traditionally, medicine has focused on reactive disease treatment. However, this model should evolve toward person-centered care, prioritizing a holistic, multifactorial approach within precision medicine. Beyond weight loss, treatment must address complications/comorbidities and improve quality of life. Emphasis should also be placed on body compartments beyond fat mass, aiming to reduce adiposity while preserving lean mass and muscle function. Early detection and intensive treatment of CAMD-related complications can prevent further conditions and significantly improve health outcomes. In this context, endocrinologists play a pivotal role in CAMD evaluation and management, thanks to their expertise in pathophysiology, anthropometric/functional assessment, and ability to select the most suitable therapeutic strategies for each case.

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