

# The obesity pandemic among patients with coronary artery disease: do we have enough to tackle its progression?

**To the editor** We have read with great interest the results of the retrospective analysis by Koziel et al,<sup>1</sup> showing that the relative frequency of central obesity significantly increased among patients with established coronary artery disease (CAD) over an observation period of 20 years. Notably, as the researchers state, the results were significant only for male participants, while the impact of dysglycemia was also greater over time.<sup>1</sup> As obesity represents an independent, strong cardiovascular risk factor, with increasing prevalence, especially in the Western world, it is undoubted that we need appropriate treatment options, besides lifestyle modification, including pharmacologic intervention and bariatric surgery in more severe cases.<sup>2</sup>

It seems that, especially as the prevalence of dysglycemia is high among obese patients with concomitant CAD, novel antidiabetic agents, namely glucagon-like peptide-1 receptor agonists (GLP-1RAs) and sodium-glucose co-transporter-2 (SGLT-2) inhibitors can play a catalytic role in the management of such patients, for the reduction of body weight and visceral adiposity, along with the optimal control of several other cardiovascular risk factors. Both drug classes are associated with significant decrease in the risk for myocardial infarction and cardiovascular death, as demonstrated in a recent meta-analysis of the first hallmark cardiovascular outcome trials in the field.<sup>3</sup> Therefore, novel antidiabetic agents could be the ideal pharmacologic intervention for obese patients with concomitant CAD, even in the absence of diabetes mellitus, as more recent randomized controlled trials have established their cardiovascular efficacy also in non-diabetic individuals.

Bariatric surgery is indicated for patients with body mass index (BMI) greater than 40 kg/m<sup>2</sup>, or 35 kg/m<sup>2</sup> for those with comorbidities. A question that arises is whether such an intervention is safe for patients with cardiovascular comorbidities and if the expected result can alter the overall prognosis. Recently published real-world data are really promising. Bariatric surgery in patients

with severe obesity and concomitant type 2 diabetes mellitus in the absence of pre-existing CAD has been shown to reduce the 5-year risk for incident CAD, macrovascular composite outcome and all-cause death compared with the nonsurgical group.<sup>4</sup> In a more recent retrospective cohort study, also enrolling subjects with type 2 diabetes mellitus and morbid obesity (including, however, participants with pre-existing CAD), it was demonstrated that metabolic surgery is associated with a significant decrease in the 8-year risk for the primary composite cardiovascular outcome and for CAD events, as well, compared with nonsurgical management.<sup>5</sup>

Collectively, it seems that we have, for the first time, treatment options for optimal management of obese patients with concomitant CAD, in order to decrease cardiovascular morbidity and mortality and all-cause mortality. It would be interesting to document prospectively in surveys similar to that conducted by Koziel et al<sup>1</sup> whether current knowledge affects physicians' treatment preferences and the impact of such interventions on the quality of life and outcomes of specific interest of affected patients. In addition, it would be valuable to know whether there is a gender-specific phenotype and the effect of applied treatment on disease course and overall prognosis.

## ARTICLE INFORMATION

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**Authors' reply** We thank Patoulias et al<sup>1</sup> for their interest in our recent paper on the ongoing pandemic of obesity in patients with coronary artery disease.<sup>2</sup> We fully agree that obesity represents an independent, strong cardiovascular risk factor with increasing prevalence, and appropriate treatment options are needed. Moreover, we agree that new pharmacologic treatments which have become available recently, as well as modern bariatric surgery constitute valuable options for some patients. However, we deeply believe that education and lifestyle modification, including intervention on diet and physical activity in particular, remain the most important, and drugs or surgery should not be considered as a panacea for increasing prevalence of obesity, even if their use, as correctly pointed out by Patoulias et al,<sup>1</sup> is related to improved prognosis. Indeed, we cannot imagine long-term high-level efficacy of any pharmacologic or surgical treatment if it is not accompanied by an effective education and lifestyle modification program. Education-based secondary prevention programs may improve survival.<sup>3</sup> Moreover, their cost-effectiveness is proved.<sup>4</sup> Unfortunately, many health systems fail to provide education and rehabilitation programs of sufficient high quality for all patients with coronary artery disease.<sup>5</sup> In addition, access to healthy food is limited in many countries similarly to exercise and recreational facilities.

The current guidelines recommend rehabilitation programs for all patients with coronary artery disease. Such programs should not be focused on physical activity in a short period after the event, but rather should aim at modification of patients' lifestyle in a longer perspective. This includes change of diet, regular exercising, and avoiding smoking, including second-hand smoking. Also, the intervention to increase adherence to prescribed therapies should be considered as important as lifestyle change. Finally, the sustained care

over the life course after the event seems to be essential to prevent the deterioration of the direct effects of the program.

We agree with Patoulias et al<sup>1</sup> that the use of new drugs with weight loss potential and bariatric surgery is likely to increase in the future. However, it is questionable whether such an increase should be considered as a success of a health care system.

## ARTICLE INFORMATION

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