risk profile among older adults who were involved in an endurance exercise program.

In summary, Prof. Wareham said that clinicians should select the best tools for measuring cardiometabolic risk that fit a specific purpose. That purpose may be to understand the etiology of disease, to predict disease in order to target therapy, to motivate individuals to change, or to be able to demonstrate response to lifestyle changes. Compared with BMI, measures of central obesity provide additional prognostic information and serve as more sensitive indicators of treatment response.

Abdominal Obesity Worsens Cardiometabolic Risk Profile Irrespective of BMI and Statin Treatment

Regardless of body mass index (BMI), patients with a higher accumulation of abdominal and liver fat have a worse cardiometabolic risk profile, according to new findings from the International Study of Prediction of Intra-Abdominal Adiposity and its Relationship with Cardiometabolic Risk/ Intra-Abdominal Adiposity (INSPIRE ME IAA).

Jean-Pierre Després, PhD, Université Laval, Quebec, Canada, presented results from three new INSPIRE ME IAA studies.

The INSPIRE ME IAA trial is an international imaging study that evaluated the relationship between abdominal obesity and cardiovascular disease (CVD) or type 2 diabetes. Beginning in 2006, the prospective trial enrolled 4277 patients across 29 countries and followed patients over a period of 3 years.

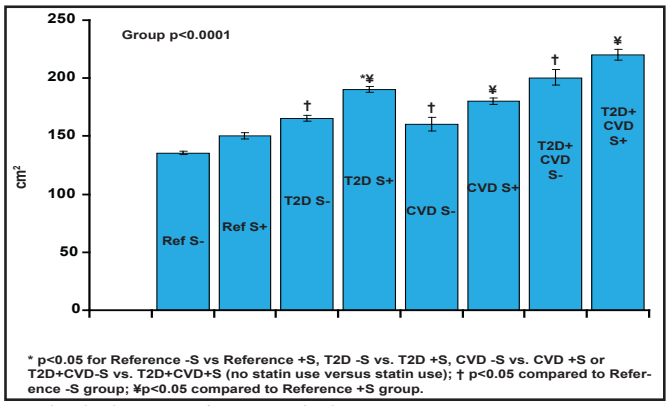
At baseline, 62% of patients had metabolic syndrome, 60% had hypertension, 39% had diabetes, and 24% had CVD. All patients underwent computed tomography (CT) imaging to measure subcutaneous and visceral adiposity and liver fat content. For both men and women, abdominal fat accumulation correlated significantly with liver fat content.

According to one INSPIRE ME IAA substudy, patients with prediabetes had significantly more visceral adipose tissue (VAT) and liver fat content than patients with normal glucose metabolism [Borel AL et al. Poster #329; Nazare JA et al. Poster #426]. Of several cardiometabolic risk factors, elevated liver fat accumulation was most closely associated with impaired glucose tolerance. Therefore, even before the onset of diabetes, abdominal obesity is an indicator of elevated cardiometabolic risk.

Another INSPIRE ME IAA substudy evaluated the relationships between body fat distribution and patient ethnicity [Smith JD et al. INSPIRE ME IAA Poster #215]. Across all ethnicities, higher BMI was correlated significantly with greater visceral fat accumulation and liver fat content. However, compared with other ethnicities, East Asian patients were more prone to gaining visceral adipose tissue as BMI values increased. This suggests that East Asian patients begin to accumulate visceral adipose tissue at lower BMI values, putting them at higher risk for diabetes and CVD than other patients with similar BMI levels. The emerging epidemic of obesity in Asia has especially dangerous implications for cardiovascular health in that part of the world.

INSPIRE ME IAA investigators also evaluated the potential role of statin therapy for managing cardiometabolic risk in patients with diabetes and/or CVD. Regardless of background pharmacotherapy, diabetes and CVD were associated with higher cardiometabolic risk. Total VAT and liver fat content was higher among patients with diabetes than without diabetes ($p<0.05$) and higher among patients with CVD than without CVD ($p<0.05$). In all disease categories, patients with a higher volume of VAT and liver fat content were more likely to be on statin therapy ($p<0.05$), suggesting that physicians recognized the worse cardiovascular risk profile in these patients and treated them more aggressively (Figure 1). Although statin therapy addresses some CVD risk factors, including elevated cholesterol, it does not effectively manage the residual cardiometabolic risk that is associated with abdominal obesity.

Figure 1. INSPIRE ME IAA: Visceral Adipose Tissue According to Statin Therapy, Type 2 Diabetes, and CVD.



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The INSIPRE ME IAA study may help to redefine our understanding of obesity, which is much more complex than having a high BMI, said Prof. Després. Irrespective of BMI, patients with excess abdominal fat have a worse cardiometabolic risk profile, even when managed with modern pharmacotherapy. Effective treatment may require interventions that address the specific metabolic risks that are associated with abdominal obesity.