

Waist-Hip Ratio in Patients with Acute Myocardial Infarction

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Dear Editor,

We read the article "Correlation of Waist-to-hip Ratio (WHR) and Oxidative Stress in Patients of Acute Myocardial Infarction (AMI)" by Siddiqui and coworkers with a great interest [1]. They investigated the relationship between obesity manifested by increased WHR and oxidative stress in patients of AMI. They concluded that high WHR is associated with high concentrations of malondialdehyde level and low concentration of antioxidant's enzyme. This results in increased oxidative stress, a major causative factor of AMI. We believe that these findings will be guides for further studies about the WHR in patients with coronary artery disease (CAD).

Waist-to-hip ratio is a novel, simple independent predictor of vascular endothelial dysfunction (ED). ED can be the first clinical presentation of subclinical atherosclerosis [2]. WHR has been also linked to CAD independently of BMI and other traditional risk factors even in normal-weight or lean population. WHR may be particularly important risk factors than other anthropometric measures for atherosclerosis.

In present study [1], the authors have showed that waist circumference(WC) was measured, at the level midway between the lower rib margin and the iliac crest. Hip Circumference (HC) was measured at the fullest point around the buttocks. WC was divided by HC to calculate WHR. However, in previously when WHR is measured, some factors are important. Waist and hip circumference were measured at the end of a normal expiration with arms relaxed at the sides, directly over the skin or light clothing in standing position. Waist circumference was measured at the midpoint between the lower margin of the last palpable rib and the top of the iliac crest [3].

The non-invasive devices to measure WHR in particular is becoming increasingly common in clinical practice. Inflammation plays a role in the pathogenesis of many inflammatory diseases like systemic lupus erythematosus, Behçet's disease where WHR changes may occur

[4]. Obstructive sleep apnea syndrome may be associated with increased cardiovascular morbidity and mortality. WHR can also be affected by the peripheral artery disease, previous surgical history, trauma, cancer, immobilization, ulcerative colitis, celiac disease, alcohol consumption, hypercholesterolemia, hypothyroidism and older age. However, the authors of the present study did not mention some above factors affecting WHR.

Information on physical activity/exercise and fast food consumption was also important for WHR. Some factors such as receiving lipid-lowering therapy, vitamins or antioxidants, abnormality in thyroid function tests, malignancy and any medication can potentially change measurements of WHR. So, it would be better, if the authors had given information about these factors.

The fact that WHR is a non-invasive method to assess endothelial dysfunction in clinical practice and that without other inflammatory markers, WHR alone may not provide information to clinicians about the prognosis in patients with AMI [5]. It would have been better, if these factors were included in the paper.

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