

عنوان مقاله:

The Association between Red Blood Cell Distribution Width and Metabolic Syndrome in Adolescent Girls

محل انتشار:

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خلاصه مقاله:

Background: Metabolic syndrome (MetS) is characterized by metabolic and anthropometric abnormalities which are associated with an increased risk of cardiovascular disease (CVD). Red blood cell distribution width is a candidate biomarker for CVD. **Method:** Nine hundred and eighty-eight girls who were between ۱۲ to ۱۸ years old were enrolled. Anthropometric parameters and blood pressure were measured, together with biochemical and hematological variables, using routine measures. International diabetes federation (IDF) criteria were used for the diagnosis of MetS. **Result:** Some of the demographic parameters such as weight, neck circumference (NC), waist circumference (WC) and hip circumference (HP) were significantly different between the groups with and without MetS, as may be expected. Significantly higher values for red blood cell distribution width (RDW) were observed only in subjects with waist circumference ($P = 0.017$) and fasting blood glucose levels ($P = 0.038$). RDW measures were directly associated with MetS status ($r = 0.076$ ($P = 0.043$)), WC ($r = 0.097$ ($P = 0.016$)), and fasting blood glucose (FBG) ($r = -0.088$ ($P = 0.037$)). It was found that the RDW had specificity and sensitivity for MetS-based IDF criteria ۴۸.۰۱ and ۷۷.۷۸, respectively. RDW related cure area (۹۵% CI) for MetS was reported to be ۰.۵۸۸ (۰.۳۸۰- ۰.۷۹۶). **Conclusion:** We found that an elevated RDW was associated with the presence of MetS and with some its components; but ROC analysis revealed that a weak specificity in spite of good sensitivity of RDW for MetS, along with a low AUC may make it unusable for the diagnostic prediction of MetS in this population.

کلمات کلیدی:

Red Blood Cell Distribution Width, metabolic syndrome, Cardiovascular Disease, Biomarker

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