ASSOCIATION OF ADIPOSITY INDICES WITH INSULIN RESISTANCE IN WOMEN WITH POLYCYSTIC OVARY SYNDROME

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Background: Insulin resistance is one of the cardinal features of polycystic ovary syndrome (PCOS) that different adiposity indices can predict. The aim of the study is tosee the association of different adiposity indices with insulin resistance and their utility as markers of insulin resistance. ***Methods:*** This cross-sectional study included newly diagnosed women with PCOS based on Rotterdam criteria by convenience sampling. After taking informed consent, related histories were taken, physical examinations (height and weight to calculate body mass index, BMI; waist circumference, WC; blood pressure; acantho-sisnigricans; and hirsutism by modified Ferriman-Gallwey score) were done, and fasting blood was drawn to measure glucose, lipids, insulin, total testosterone, luteinizing as well as follicle stimulating hormone were measured. Then an oral glucose tolerance test was done to measure glucose. Glucose was analyzed by glucose oxidase, lipid by peroxidase dehydrogenase, and all hormones by chemilu-minescence. Adiposity indices included visceral adiposity index (VAI), lipid accumulation product (LAP), triglyceride index (TyG), and its cross-product with BMI (TyG-BMI), and WC (TyG-WC). Insulin resistance was measured by the homeostasis model (HOMA-IR) and 2.6 was taken as the cut-off. ***Results:*** Among 632 women 437 (69.1%) had insulin resistance. All the indices were significantly higher in the insulin resistance group and correlated with HOMA-IR irrespective of the insulin resistance status ($p < 0.001$). Among the five, the TyG-BMI had the highest area under the curve (AUC) of 0.731, then the TyG-WC (0.728), followed by LAP (0.704). VAI and TyG index were poor markers of insulin resistance. **Conclusion:** TyG-BMI, TyG-WC, and LAP were moderate markers of insulin resistance among women with PCOS.

Keywords: Polycystic ovary syndrome, adiposity index, visceral adiposity index, lipid accumulation product, triglyceride index