Insulin resistance markers in children

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The prevalence of obesity among children and adolescents is progressively increasing around the world. One of the important consequences of obesity is the development of insulin resistance (IR). This condition has a multifactorial pathogenesis and is associated with cardiovascular risk, diabetes, hypertension, polycystic-ovary syndrome and a shorter lifespan. IR during childhood may be diagnosed by physical examination or there may be clues in the histories of the patient and his/her family. When IR is suspected, tests on a blood sample (which are more reliable) are recommended. Most of the biochemical markers have been well defined in adults, but appropriate reference data for children are still lacking. Here we discuss the usefulness of various currently known biochemical markers to evaluate insulin sensitivity (homeostatic model assessment, the quantitative insulin sensitivity check index, the oral glucose tolerance test, Matsuda method and the whole-body insulin resistance index),