

**THE ASSOCIATION BETWEEN INSULIN RESISTANCE AND METABOLIC PROFILE IN A POPULATION WITH DIFFERENT DEGREES OF GLUCOSE TOLERANCE**

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**Introduction:** Oral glucose tolerance test (OGTT) insulin resistance (IRI) and sensitivity (ISI) indices are used to study mechanisms related to metabolic syndrome (MS). **Objective:** To analyze the relationship of different IRI and MS. **Methods:** Cross-sectional study (n=160) (females 76.4%; age 52.5±12.5) from Hospital de Clínicas de Porto Alegre, classified (ADA criteria) as normal glucose tolerance (NGT=49), prediabetes (PDM=70), and diabetes (DM=41). MS was defined by IDF criterion (n=112), body composition estimated by bioelectrical impedance, blood pressure measured by 24-h ambulatory blood pressure monitoring (ABPM) and albumin excretion by spot urine (UAE) was collected. IRI was estimated by the reciprocal of Stumvoll, Matsuda, OGIS, QUICKI, fasting insulin (Ins) and HOMA-IR. **Results:** All IRIs correlated with waist circumference (r=-0.639, r=-0.391, r=-0.412, r=-0.381, r=-0.281 and r=0.201) and HDL cholesterol (r=0.203, r=0.314; r=0.205, r=0.307, r=0.332 and r=-0.305) (p for all <0.05); total body fat with Stumvoll (r=-0.398, p<0.001), Matsuda (r=-0.209, p=0.037) and Ins (r=-0.214, p=0.016). UAE associated to Matsuda, QUICKI, Ins and HOMA-IR (r=-0.211, r=-0.254, r=-0.259 and r=0.256, p for all<0.05). Systolic blood pressure (SBP) correlated with OGIS (r=-0.176, p=0.035) and Stumvoll (r=-0.350, p=0.037), and SBP by ABPM with OGIS ISI (sleep, r=0.214, p=0.030; daytime, r=0.198, p=0.045). The reciprocal of Stumvoll, Matsuda and OGIS ISI had greater accuracy in identifying the presence of SM (ROC curve: Stumvoll 0.795 vs. OGIS 0.800 vs. Matsuda 0.778 vs. QUICKI 0.756 vs. HOMA-IR 0.775 vs. Ins 0.704). **Conclusion:** OGIS, Stumvoll and Matsuda are preferred methods to estimate IR, since they associated better with metabolic profile and were more accurate in predicting MS.