

METABOLIC CHARACTERISTICS OF INDIVIDUALS WITH IMPAIRED GLUCOSE HOMEOSTASIS

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BACKGROUND: We sought to clarify whether "impaired fasting glucose" (IFG), impaired glucose tolerance (IGT), or both (IFG/IGT) represent the most severe impairment in insulin resistance (IR) and insulin secretion (IS).

METHODS: Among 159 Chinese subjects, 21 were diagnosed with IFG, 103 with IGT, and 35 with both. IR and β cell function were assessed using the homeostatic model assessment (HOMA) and insulin suppression test (IST).

RESULTS: No differences were evident between the groups in terms of blood pressure, body mass index, plasma insulin fasting levels, and lipid profiles. However, plasma 2-hour insulin levels were higher in the IGT and IFG/IGT groups. The β cell function was not different between these groups, but glucose tolerance was different, with the IFG/IGT and IFG groups displaying higher insulin sensitivity than the IGT via HOMA group instead of no difference via IST in the three patient groups.

CONCLUSION: Despite differences in plasma glucose and insulin levels, our data suggest that the IGT, IFG and IFG/IGT groups have a similar IR. The discrepant findings of HOMA-IR might be due to the variability of insulin measurements. Further studies of larger scale could help clarify this conundrum.

Key words: insulin suppression test, impaired fasting glucose, impaired glucose intolerance