

THE IMPACT OF IMPAIRED GLUCOSE TOLERANCE ON CARDIOVASCULAR RISKS IN SOUTHERN TAIWANESE WITH IMPAIRED FASTING GLUCOSE (100-109 MG/DL)

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BACKGROUND/AIMS: In 2003, the American Diabetes Association (ADA) lowered the threshold of impaired fasting glucose (IFG) from 110 mg/dL to 100 mg/dL. Since then, many studies have argued the clinical relevance of this new definition.

METHODS: We enrolled 1411 participants without diabetes in southern Taiwan. These subjects were divided into three groups: NFG (normal fasting glucose, fasting plasma glucose [FPG] < 100 mg/dL), IFG100 (FPG= 100-109 mg/dL), and IFG110 (FPG= 110-125 mg/dL). Then subgroups of NGT (2-hour plasma glucose [2-h PG] <140 mg/dL) and IGT (2-h PG=140-199 mg/dl) were further separated from NFG and IFG100. Statistical analyses with post-hoc Scheffe test of ANOVA were used to compare each variable between groups with SPSS software version 10.0.

RESULTS: By the revised 2003 ADA criteria, IFG prevalence increased from 5.2% to 19.4% in this Taiwanese population. Statistical analysis demonstrated that the body weight (BW), body mass index (BMI), abdominal girth (AG), systolic blood pressure (SBP), diastolic blood pressure (DBP), 2-h PG, and triglyceride (TG) were significantly higher in IFG100 and IFG110 as compared to NFG. Between IFG100 and IFG110, only mean AG and 2-h PG were significantly different. Further analysis among NFG/NGT, NFG/IGT, IFG100/NGT, and IFG100/IGT demonstrated that significant differences in cardiovascular risk between IFG100 and NFG mainly resided in the subgroups of IFG100/IGT.

DISCUSSION/CONCLUSIONS: More individuals with cardiovascular risk can be identified with the new criteria. However, the association between additionally defined IFG and cardiovascular risk was highly dependent on the concomitant presence of IGT.

Keywords: diabetes mellitus; glucose intolerance; prediabetic state