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ASSOCIATION BETWEEN IMPAIRED GLUCOSE REGULATION AND HEART RATE TURBULENCE

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Objectives To explore the association between impaired glucose regulation and heart rate turbulence.

Methods According to the results of oral glucose tolerance test and the guide of International Diabetes Federation in 2007, 254 cases of participant were divided into three groups, namely control group, impaired glucose regulation group and new diagnosed diabetes group. 24 h Holter was performed in all participants.

Results Although turbulence onset and 24 h total number of premature ventricular contraction were lower, and turbulence slope

and the SDs of all normal RR intervals were higher in impaired glucose regulation group than those in new diagnosed diabetes group ($p<0.05$, respectively), turbulence onset and 24 h total number of premature ventricular contraction were significant elevated, and turbulence slope and the SDs of all normal RR intervals were remarkable decreased in impaired glucose regulation group compared with control group ($p<0.05$, respectively). Pearson analysis shown, fasting glucose levels positively correlated with turbulence onset and 24 h total number of premature ventricular contraction (correlation coefficient were 0.5347 and 0.3419, $p<0.001$, respectively), and negatively correlated with turbulence slope and the SDs of all normal RR intervals (correlation coefficient were -0.4633 and -0.3682 , $p<0.001$, respectively).

Conclusions There was correlation between impaired glucose regulation and heart rate turbulence. Function of cardiac autonomic nervous system has impaired in subjects with impaired glucose regulation.