P-0760 – Incidence of Type 2 Diabetes among Asian Indian Men with Transient versus Persistent Impaired Glucose Tolerance

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Background: Asian Indians have high rates of impaired glucose tolerance (IGT) and many of them rapidly convert to type 2 diabetes (T2D). During the selection of persons with IGT for a diabetes prevention study, men aged 35 to 55 years with risk factors for T2D were requested to undergo standard oral glucose tolerance test (OGTT). Persons with IGT were invited to repeat the test within a week. The presence of two positive tests was termed persistent IGT (PIGT). A positive result only on the first test was termed having transient IGT (TIGT).

Aim: To compare the incidence of T2D among the two groups of men over a 5 year period.

Methods: The study samples were from participants who underwent the clinical screening for a randomized controlled diabetes prevention study started in 2009¹.

Figure: Selection of participants for the primary study and categorisation based on glycaemic outcomes

Persons with PIGT (n=236) and with TIGT (n=569) underwent a follow up OGTT 5 years later. Participants with TIGT were given standard advice on lifestyle modification only at the time of initial screening. They were invited for a repeat clinical assessment after a median period of 5 years (Aug-Dec 2015). For PIGT, only persons randomized in the control arm of the prevention trial (standard lifestyle advice) were invited for the final assessment at 5th year. During the active phase of the study, persons with PIGT underwent 6 monthly clinical and biochemical reviews for 2 years and they were later retested at the end of 5 years. Comparison of incidence of diabetes between the two study groups were done using Cox's regression analysis.

Results: Conversion to diabetes occurred among 78 of TIGT persons (13.7%) and among 106(44.9%) in the PIGT group in 5 years. The conversion rate to diabetes was significantly lower among people who had TIGT when compared with people with PIGT, as shown by Cox's regression analysis (HR=0.241, CI(0.179-0.323)p<0.0001).

Discussion: PIGT was associated with a high conversion to diabetes, whereas the conversion rate was significantly lower in persons who had TIGT. This reinforces the fact that a repeat blood test is mandatory to confirm and classify subjects as IGT or Prediabetes. Institution of a healthy lifestyle by dietary modification and enhanced physical activity helps to prevent diabetes in such people²⁻⁴. The initial prevention study showed that there was a relative risk reduction of 36% in incident diabetes among the intervention arm who practiced lifestyle modification over 2 years. This report gives evidence that those subjects with IGT confirmed by a second blood test namely, PIGT, have higher risk and will benefit from intervention to prevent conversion to T2D.

References:

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