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Diabetes mellitus among young adults in Sri Lanka- role of GAD antibodies in classification and treatment: The Sri Lanka Young Diabetes study; JArticle; Diabetologia ; Vol: 51; 2008_.1368-1374pp

Abstract :Aims/hypothesis Diabetes mellitus is increasing among young adult South Asians. The aim of this study was to determine the prevalence and phenotypic characteristics of diabetes subtypes based on GAD65 autoantibody (GADA) status in those with young adult-onset diabetes in Sri Lanka. Methods Clinical, metabolic and GADA data were available for 992 consecutively recruited individuals with diabetes aged .45 years (age at diagnosis 16.40 years). Participants were classified according to the following definitions: type 1 diabetes, insulin-dependent <6 months from diagnosis; latent autoimmune diabetes in adults (LADA), GADA-positive, age 30 years and insulin-independent .6 months from diagnosis; type 2 diabetes, GADA-negative and insulin-independent .6 months from diagnosis. Results The median (interquartile range) age at diagnosis and diabetes duration were 33.0 (29.0.36.1) and 4.0 (1.1. 7.1) years, respectively; 42.1% were male. GADA positivity was seen in 5.4% of participants (n=54) and GADA levels negatively correlated with age at diagnosis (p<0.0001), BMI (p<0.0001) and time to insulin requirement (p=0.006). Type 1 diabetes, type 2 diabetes and LADA were present in 7.0%, 89.7% and 2.6%, respectively. The remaining 0.7% of the participants were GADA-positive, insulin independent .6 months from diagnosis and were diagnosed at age <30 years. The metabolic syndrome and homeostasis model assessment of beta cell function (HOMA %B) were lowest in GADA-positive type 1 diabetes and increased progressively in latent autoimmune diabetes, GADA-negative type 1 diabetes and type 2 diabetes. Among those requiring insulin, 69.2% had fasting C-peptide levels in the lowest quartile, whereas only 19.5% were GADA-positive (p<0.0001). Conclusions/interpretation The prevalence of GADApositive autoimmune diabetes is low among individuals with young adult-onset diabetes in Sri Lanka. Young-onset diabetic phenotypes appear as a continuum from autoimmune type 1 diabetes to type 2 diabetes.