ADA 2017 Abstract

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Title: The extent of diabetes misclassification 1 year after a diagnosis of type 1 diabetes: data from the After Diabetes Diagnosis Research Support System (ADDRESS-2) cohort.

Introduction

The diagnosis of type 1 diabetes (T1D) is based mainly on clinical features but may be revised by biochemical or clinical information. Assessing frequency of reclassification is problematic due to potential reporting bias. We report a systematic prospective assessment of reclassification one-year post-diagnosis of T1D & explore the characteristics of those reclassified.

Methods

The ADDRESS-2 study recruits incident clinician-assigned T1D cases within 6 months of diagnosis and systematically assesses pancreatic autoimmunity. Baseline & 1-year follow-up clinical and biochemical data were examined. Cases were regarded as reclassified if the follow-up diagnosis reported, was not T1D.

Results

54 (1.6%) of 3264 people were reclassified at follow-up. 46% were classed as type 2, 7% ketosis-prone type 2, 5% LADA & 6% MODY. 28% remained unclassifiable. Reclassified versus confirmed T1D participants were more likely to be of non-white (24% vs 9% $p<0.0001$) ethnicity.
The reclassified group was older (median age 36.6 vs 14.4yrs $p= 0.0001$), had higher BMIs (median 27.4 vs 24.0kg/m^2, $p=0.0001$), were more likely to have an affected first degree relative (48% vs 20%, $p<0.001$) & were more likely to be antibody negative (80% vs 14%, $p<0.001$ than the confirmed T1D cases. Following reclassification, 22% were able to replace insulin treatment with oral agents & 9% continued on insulin with oral agents.

Conclusion

Reclassification following diagnosis occurred in 1.6% of clinician-assigned T1D cases assessed at 1 year. Since reclassification may be ongoing during the course of management, this is likely to be an underestimate. However, these data suggest that clinical assignment of diabetes type is challenging in older and non-white people. These data highlight the limitations of assigning diabetes subtype based on clinical features alone & suggest detailed phenotyping in some individuals may be necessary at follow-up.