

Relationship between the estimated Rate of Glucose Elimination and Chronic Diabetic Complications

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Introduction

Multiple risk factors for type 2 diabetes and cardiovascular disease coexist in etabolic syndrome (MS), with insulin resistance playing a significant causal role. Multiple large cohort studies have examined the prevalence of metabolic syndrome (MS) in type 1 diabetes (T1D) patients using various definitions. Its prevalence ranges from 8% to 45% depending on the age, the population studied, and the definition.3-5 Regardless of the definition, the use of the MS concept in T1D has limitations because the hyperglycaemia criterion is inevitably met, potentially overestimating its prevalence. Since insulin resistance is linked to the pathophysiology of MS, a better measurement of insulin resistance in the T1D population is needed. Additionally, elevated triglycerides or its treatment criteria pose a problem because the indications for its treatment can be other than the aforementioned.

Description

The American Diabetes Association's diagnostic criteria were used to define diabetes complications (nephropathy, retinopathy, peripheral and/or autonomic neuropathy).18 Diabetic retinopathy was considered if an ophthalmologist had previously diagnosed it. Patients who were unable to detect a vibration perception threshold (VPT) of less than 25 V using a Vibrotact Neurothesiometer (Diabetic Foot Care, India) 19 or who were taking any medications for diabetic neuropathy were considered to have peripheral diabetic neuropathy. Nephropathy was defined as having a UACR greater than 30 mg/g and/or an eGFR less than 60 mL/min, taking angiotensin converting enzyme inhibitors or angiotensin receptor blockers to treat proteinuria, receiving dialysis as a form of renal replacement therapy, or having had a kidney transplant in the past. When the patient had a history of any of the following conditions, cardiovascular disease was considered: stroke (ischemic or hemorrhagic), myocardial infarction, revascularization, and peripheral artery disease (history of amputation or revascularization).For the purpose of determining the presence of metabolic syndrome, the modified definition of the National Cholesterol Education Program Adult Treatment Panel III (ATP III) was utilized.20 Since all of the participants met the requirements for hyperglycemia on their own, two additional requirements were required to determine the

presence of MS. The observational and cross-sectional design of this study are two of its limitations. Additionally, the small sample size, intensive treatment, stable metabolic control, and relatively brief evolution may have contributed to the low prevalence of macrovascular complications [1-5].

Conclusion

While additional ethnic-specific studies are required, this report also suggests that the integration of the eGDR into routine T1D care would be beneficial. This study confirms that the eGDR is useful for the identification of MS and chronic diabetic complications in patients with T1D.

Acknowledgement

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Conflict of Interest

There are no conflicts of interest by author.

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