PREDIABETES: INTRODUCTORY CONCEPT

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ABSTRACT

Physiological range upper and lower limit values are the reference to consider normal in any state of medical parameter. To address blood glucose or blood pressure value reaching upper limits of normal so called high normal or borderline a new term is introduced called as predisease, the concept of predisease is relatively new like addressing prediabetes or prehypertension which do pose health risk and might be a sign of warning that a patient is progressing toward overt hypertension or diabetes. This short paper focuses on the concept of prediabetes and its definition along with its historical perspective.

Keywords: Concept, Prediabetes, Health risk.

HISTORICAL PERSPECTIVE

Concept of prediabetes was on discussion since 1950 but it remained only in talk till 2000, and in 2003, the diagnostic criteria to demarcate diabetes and prediabetes came into use. But before, WHO in 1980 put forward a classification of diabetes on the basis of statistically significant risk groups who are more prone to develop diabetes in the near future. In 1979, the WHO officially introduced the term glucose tolerance test (GTT) with an extra categorical type in which patient do have alteration and imbalance in glucose metabolism that later included as impaired fasting glucose (IFG) [1].

DEFINITION OF PREDIABETES

Definition of prediabetes includes the concept visualizing of IFG and impaired glucose tolerance value made after 11 years follow-up study report by Wen *et al.* in this context IFG between 6.1 and 6.9 mmol/L (100-125 mg/dL) had significantly hiked rate of mortality due to cardiovascular disease (CVD) compared to people with less than IFG 6 mmol/L [2].

Review by Unwin and colleagues concluded that IFG and IGT (glucose ≥7.8 and <11.1 mmol/L (140-199 mg/dL) 2 hrs after ingestion of a 75-g oral glucose load IGT impaired glucose tolerance) has a more strong association with CVD than IFG was [3].

The American Diabetes Association (ADA) defined prediabetes by taking the scope of diabetes, a continuum of hyperglycemia that has role in microvascular and macrovascular complication thus to preclude or prevent such complexes certain measure or methods are recommended to delay the progression of prediabetes to diabetes. An ADA panel revised Type 2 diagnostic criteria introducing IFG level 100-125 mg/dl and these people who show IFG though it is different sort of glucose intolerance risk to develop Type 2 diabetes is also present in these group [4,5] suggesting that targeting to a specific risk group patient metformin therapy can be prescribed otherwise in normal status nonpharmacological intervention such as lifestyle modification need to be adopted.

Both IGT and IFG are designated as "prediabetes" because of its slow pace toward Type 2 diabetes mellitus (DM) in the near future. Nearly 70 million prediabetes (IGT and/or IFG) live alone in America [6].

RESULTS INDICATING PREDIABETES

Normal: <5.7.

Hemoglobin A1C of 5.7-6.4% (HbA1C test measure the average glucose in blood pool over the past 2-3 months) [7].

Fasting blood glucose of 100-125 mg/dl.

An oral GTT 2 hrs blood glucose of 140 mg/dl-199 mg/dl.

CONCLUSION

A concept of transition phase IFG and IGT devised known as prediabetes a form of normal glucose tolerance before demonstration of overt Type 2 diabetes was described as impaired glucose tolerance that is second half plasma glucose level between 140 and 199 mg/dl this stage possess the highest risk for diabetes in near future of life. Since prediabetes can cause highest prevalence risk of Type 2 diabetes leading to hiking mortality, morbidity, and health-care costs hence it is accepted as an important public threatening ailment. Thus, understanding the concept of prediabetes is compulsion among all individuals and alleviating its processing phenomenon from IGT and/or IFG to overt Type 2 DM is necessary that will help to combat its epidemic and lessen health-care cost.

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