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## Pre-diabetes a Precursor Stage to Diabetes Mellitus a Metabolic Disease

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### Review Article

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### ABSTRACT

Pre-diabetes, which is a common condition, related to diabetes means that the blood sugar level is higher than the normal but not that high enough to be classified as type 2 diabetes in 10years. This condition increases the risk of developing type 2 diabetes, heart disease or stroke. It can be typically reversed by lifestyle changes, such as losing weight which can prevent or at least delay, the onset of type 2 diabetes and increasing physical activity levels without taking insulin. A condition like prediabetes, the long-term damage of diabetes to heart and circulatory system.

### INTRODUCTION

Pre-diabetes is a curable disease state with Intensive weight loss and lifestyle intervention, if sustained, may improve glucose tolerance substantially and prevent progression from Impaired glucose tolerance to type 2 diabetes [1-10].

### CLASSIFICATION

#### Impaired fasting glycaemia

Impaired fasting glycaemia which is also known as impaired fasting glucose is a condition in which the fasting blood glucose is elevated above normal levels but is not high enough to be classified as diabetes mellitus and it is a pre-diabetic state which is associated with insulin resistance and increased risk of cardiovascular pathology. Impaired fasting glycaemia sometimes progresses to type 2 diabetes mellitus. Impaired fasting glycaemia is also a risk factor for mortality. People with impaired fasting glucose may be diagnosed with impaired glucose tolerance, and many have normal responses to a glucose tolerance test [11-20].

#### Impaired glucose tolerance

Impaired glucose tolerance which is a pre-diabetic state of dysglycemia and is associated with increased risk of cardiovascular pathology and insulin resistance. Impaired glucose tolerance may precede type 2 diabetes mellitus by many years and it is also a risk factor for mortality [21-25]. WHO (World Health Organization) criteria for impaired fasting glucose differs from the ADA (American Diabetes Association) because the normal range of glucose is defined differently by each other. Fasting plasma glucose levels 100 mg/dL (5.5 mmol/L) and higher have been shown to increase complication rates according to American Diabetes Association and Fasting plasma glucose

levels 110 mg/dL (6.1 mmol/l) and higher have been shown to increase complication rates according to World Health Organization dL [26-30].

### **PATHOPHYSIOLOGY**

Diabetes mellitus (DM) is additionally a polygenic issue, which is a bunch of metabolic diseases inside which an individual has high glucose. This high glucose creates the manifestations of regular discharge, raised craving and raised thirst. Untreated, polygenic disorder will bring about a few inconveniences like intense complexities grasp diabetic acidosis and nonketotic hyperosmolar trance like state. Genuine long inconveniences grasp cardiopathy, disappointment, and mischief to the eyes. Polygenic confusion after effect of exocrine organ not emitting enough endocrine, or as a consequence of cells of the body don't react appropriately to the endocrine organ [31-41].

### **COMPLICATIONS**

All styles of polygenic disorder build the shot of long entanglements. These complexities for the most part create when a couple of years (10–20), however is likewise the essential signs or manifestations in individuals who have generally not got an assignment before that point. the most vital long complexities identify with break to veins. These complexities will be grouped into microvascular disease (harm to minor veins) and macrovascular illness (damage to larger arteries) [42-46]. the principal microvascular complications of polygenic issue grasp damage to the eyes, kidneys, and nerves mischief to the eyes, alluded to as diabetic retinopathy, is created by harm to the veins inside the tissue layer of the consideration, and may prompt continuous vision misfortune and surely visual deformity mischief to the kidneys, alluded to as diabetic kidney infection, will bring about tissue scarring, discharge macromolecule misfortune, and in the end constant renal issue, for the most part requiring synthetic examination or urinary organ transplant. harm to the nerves of the body, alluded to as diabetic pathology, is that the most commonplace intricacy of polygenic issue. The side effects will grasp indication, shivering, torment, and adjusted agony sensation, which may make hurt the skin. Diabetes-related foot issues [47-50], (for example, diabetic foot ulcers) could happen, and might be difficult to treat, once in a while requiring removal to boot, proximal diabetic pathology causes difficult muscle squandering and shortcoming. The essential macrovascular inconveniences of (diabetes, polygenic issue, polygenic sickness) grasp arteria ailment (angina and heart muscle localized necrosis), stroke, and fringe tube-formed structure disease with respect to seventy fifth of passings in diabetics square measure inferable from blood vessel ailment. There is a connection between mental component shortfall and polygenic issue. Contrasted with those while not polygenic turmoil, those with the sickness have a 1.2 to 1.5-fold bigger rate of decrease in mental component perform [51-61].

### **PREVENTION**

Diabetes mellitus could be a perpetual disease, that there's no commended cure with the exception of in frightfully particular things. Management focuses on keeping blood glucose levels ("euglycemia") as potential, while not exacting manifestation [62-72]. This may in some cases be expert with eating regimen, work out, and utilization of worthy meds (insulin inside the instance of kind one diabetes; oral solutions, further as most likely hypoglycemic operator, in kind a couple of diabetes) [73-83].

The ACE (American College of Endocrinology) and the AACE (American Association of Clinical Endocrinologists) have developed lifestyle intervention guidelines for preventing the onset of type 2 diabetes [84-100]:

- Healthy meals with low saturated fat, refined carbohydrates and sugars as well as limited total calories and sodium.
- Physical exercise for 45 minutes per day and five days a week.
- Reducing weight to a 5-10 percent may have an impact on overall health
- For persons with severe risk factors, prescription medication may be appropriate. Medicines like Metformin, acarbose, thiazolidinediones prevent the development of frank diabetes, and have a good safety profile.

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