Type II Diabetes and its Treatment

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**Type II Diabetes and its Treatment**

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**Diabetes and its Treatment**

**Type II Diabetes (DM2)** is a metabolic disorder characterized by insulin resistance and hyperglycemia. This condition affects multiple body systems and can lead to serious complications if not properly managed. The treatment of Type II Diabetes includes lifestyle modifications, pharmacological interventions, and healthcare provider guidance. Here, we will explore the different treatment approaches for this condition.

### Introduction

Type II diabetes is a result of many cellular processes that lead to insulin resistance resulting in increased blood glucose levels (Jia Hu, Lin, Miller, Nguyen, & Nguyen, 2015). It is a disease that can cause or potentiate numerous comorbidities that negatively affects multiple body systems. The symptoms include hyperglycemia, hypoglycemia, hypertension, glaucoma, cataracts and macular focal neuropathy, and autonomic coagulopathies (CDC, 1991). The primary causes of Type II diabetes are lifestyle factors including obesity and inactivity. The prevalence of Type II diabetes has increased dramatically in recent years and is a leading cause of mortality worldwide (Jia Hu, Lin, Miller, Nguyen, & Nguyen, 2015).

### Signs and Symptoms

#### Diabetic Retinopathy

- **Distal symmetrical neuropathy** is characterized by dysesthesia and paresthesia in the lower extremities (CDC, 1991). As the neuropathy progresses with poor glycemic control, varying degrees of pain and sensation loss occur (CDC, 1991). Focal neuropathy is an uncommon form associated with a blood vessel occlusion. Symptoms include altered sensation in a particular nerve or a sudden, acute onset of pain in an extremity. This can affect multiple body systems. The symptoms include hyperglycemia, hypoglycemia, hypertension, glaucoma, cataracts and macular focal neuropathy, and autonomic coagulopathies (CDC, 1991).

#### Complications

1. **Diabetic Retinopathy** - is one of the major causes of blindness (Cataract, 2015). Hyperglycemia and hyperinsulinemia contribute to diabetic glomerulosclerosis, which is characterized by increased thickening of the glomerular capillaries (Jennings, 2015). The alteration of GLUT protein expression can impair pancreatic beta cell function thus potentially leading to an insulin resistance leading to an even worse hyperglycemia (Jia Hu, Lin, Miller, Nguyen, & Nguyen, 2015). Insulin secretion helps move glucose into the cell, which is mediated by glucose transporter 2 (GLUT2) (Jia Hu, Lin, Miller, Nguyen, & Nguyen, 2015). The alteration of GLUT2 can be seen in patients with Type II diabetes (Jia Hu, Lin, Miller, Nguyen, & Nguyen, 2015). Insulin secretion helps decrease insulin levels in those mice (Jia Hu, Lin, Miller, Nguyen, & Nguyen, 2015). A large majority of Type II diabetes patients have a genetic susceptibility to insulin resistance (Jia Hu, Lin, Miller, Nguyen, & Nguyen, 2015). This is attributed to the idea that insulin resistance becomes worse with increasing age and body weight (Jia Hu, Lin, Miller, Nguyen, & Nguyen, 2015).

### Dietary and Exercise Recommendations

**Recommendations**

Weight reduction through dietary modification and exercise control by decreasing insulin resistance and increasing insulin sensitivity (McCulloch, Nathan, Mulder, 2015). Their benefits are most noticeable in people with Type II diabetes (McCulloch, Nathan, Mulder, 2015). A large number of people with Type II diabetes have shown to have decreased insulin sensitivity (McCulloch, Nathan, Mulder, 2015). This is attributed to the idea that insulin resistance becomes worse with increasing age and body weight (McCulloch, Nathan, Mulder, 2015).

### Treatment

**Dietary and Exercise Recommendations**

**Cont’d**

Approximately 28.9 million Americans have been diagnosed with type 2 diabetes (Jia Hu, Lin, Miller, Nguyen, & Nguyen, 2015). It is a disease that can cause or potentiate numerous comorbidities that negatively affect multiple body systems. The symptoms include hyperglycemia, hypoglycemia, hypertension, glaucoma, cataracts and macular focal neuropathy, and autonomic coagulopathies (CDC, 1991). The primary causes of Type II diabetes are lifestyle factors including obesity and inactivity. The prevalence of Type II diabetes has increased dramatically in recent years and is a leading cause of mortality worldwide (Jia Hu, Lin, Miller, Nguyen, & Nguyen, 2015).

### Pathogenesis

The dysregulation of fatty acid metabolism and decreased glucose synthesis can be an inherited defect that contributes to insulin resistance (McCulloch, Nathan, Mulder, 2015). The prevalence of Type II diabetes has increased dramatically in recent years and is a leading cause of mortality worldwide (Jia Hu, Lin, Miller, Nguyen, & Nguyen, 2015). A large majority of Type II diabetes patients have shown to have decreased insulin sensitivity (McCulloch, Nathan, Mulder, 2015). This is attributed to the idea that insulin resistance becomes worse with increasing age and body weight (McCulloch, Nathan, Mulder, 2015).

### References


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