Cheatography

Diabetes Mellitus Cheat Sheet

by That__nurse via cheatography.com/154639/cs/33137/

Insulin

Insulin is produced in the Islet of Langerhans of the pancreas

Normal blood glucose: 4 to 6 mmol/L

Release of insulin leads to the transportation of glucose from the bloodstream into the cell.

Rise of insulin leads to storage of glycogen in the liver and inhibits gluconeogenesis

Etiology

A disorder of glucose metabolism related to absence or deficient insulin supply or poor utilization of insulin.

Pathophysiology

Factors	Type 1	Type 2
Primary defect	Absent or minimal insulin production due to autoimmune process	Insulin resistance, decreased insulin production and alteration in production of adipokines
Age	Common in young people but can occur at any age	Greater than 35 but can occur at any age
Type of onset	Abrupt signs and symptoms	Insidious and can go undiagnosed for years
Nutritional Status	Thin, normal and Obese	Obese oe normal
Symptoms	Thirst, Polyuria, Polyphagia, Fatigue, Weight loss	Frequently none, fatigue, recurrent infections
Insulin	Required for all	Some

Summary of Diabetes Mellitus

Prediabetes

Type 1 Diabetes Mellitus

This occurs from the gradual destruction of pancreatic beta cells by an autoimmune process either directly or indirectly.

It can either be Type 1a (immune) or Type 1b (idiopathic)

Manifestations occur when the pancreas can no longer produce insulin which justifies the abrupt onset.

The classic symptoms are polydipsia, polyuria and polyphagia

Outside supply of insulin is required or diabetic ketoacidosis can be developed

Other symptoms include weakness and fatigue and change in visual acuity.

Polydipsia is as a result of osmotic concentration of glucose in the body.
Polyphagia is caused by cellular malnourishment from lack of energy which means the cells do not get glucose to convert to ATP.
Weight loss occurs the body turns to other sources such as fat and protein for strength.
Weakness and fatigue from energy loss

Diagnostics Studies

Glycalated Hemoglobin A1c greater than or equals to 6.5%

Fasting blood glucose level greater than or equals to 7.0 mmol/L

Random plasma glucose greater than or equal to 11.1 mmol/L

Two hour plasma glucose in a 75G OGTT greater than or equal to 11.1mmol/L

*A1c test indicates the level of glucose over a particular time. It should be done every 3-6 months.

Gestational Diabetes

Occurs during pregnancy.

Detected between 24 and 28 weeks of pregnancy,

Type 2 DM

Type 2 DM (cont)

1. Insulin resistance as a result of unreceptive receptors, insufficient receptors or both. Both hyperglycaemia and hyperinsulinemia occurs as the body tries to decrease glucose by increasing insulin production,

2. A significant decrease in the ability of the pancreas to produce insulin.

3. Inappropriate glucose production by the liver which leads to increased glucagon production which stimulates the glucose production in liver. In total increasing sugar level.

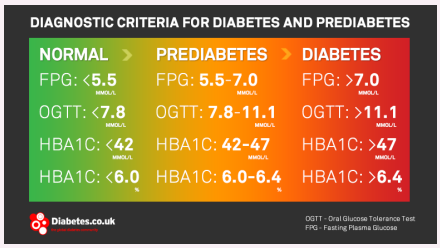
4. Alteration hormones and cytokines production by adipose tissues.

Onset of disease is gradual.

Diabetic ketoacidosis complication can be prevented with a sufficient endogenous supply. However osmotic and electrolyte loss can become severe and cause hyperosmolar and hyperglycaemic state.

Manifestations Nonspecific and not limited to fatigue, recurrent infections, prolonged wound healing, visual acuity changes, and painful neuropathy of the feet.

Diabetic ranges



AKA Impaired glucose tolerance or impaired fasting glucose

Noted when fasting glucose is higher than normal but lower than DM.

Usually do not have symptoms however, the A1c should be tested regularly

Reducing risk by eating healthy, maintaining a healthy weight and exercising regularly

Secondary Diabetes

DM caused by another medical condition or a treatment of a medical condition.

Most powerful risk factor is obesity.

Endogenous insulin is still produced by the body. However, the insulin is either insuff-icient, poorly utilized or both.

There are four major factors that play a role in the development of DM2.

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