

DIABETES A SUGER COATED DISEASE

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Abstract: -Pre-Diabetes means one have a higher than normal blood sugar level. These not enough to be considered type-2 diabetes. Yet, but without lifestyle changes, adults and children with Pre-Diabetes more likely to develop type 2. Eating healthy food, physical activity can help bring blood sugar level back to normal. Pre-Diabetes doesn't usually have any sign. One possible sign is darkening skin. Some symptoms suggest that one moved from prediabetes to type-2 diabetes. Which may include increase thirst, frequent urination, Fatigue. The exact cause of prediabetes is unknown. But family history a genetic play an important role.

Keywords: -Diabetes, Patient, Sugar, Insulin, Prediabetes, Polyuria, Glucose.

Introduction: -

Patients with high blood sugar will typically experience polyuria (frequent urination), they will become increasingly thirsty (polydipsia) and hungry (polyphagia). Diabetes comes from Greek, and it means a "siphon". Aretus the Cappadocian, a Greek physician during the second century A.D., named the condition *diabainein*¹⁻².

Facts on diabetes

1. Diabetes is a long-term condition that causes high blood sugar levels.
2. Type 1 Diabetes - the body does not produce insulin. Approximately 10% of all diabetes cases are type 1.
3. Type 2 Diabetes - the body does not produce enough insulin for proper function.
4. If you have Type 1 and follow a healthy eating plan, do adequate exercise, and take insulin, you can lead a normal life.
5. Type 2 patients need to eat healthily, be physically active, and test their blood glucose. They may also need to take oral medication, and/or insulin to control blood glucose levels.

TYPES OF DIABETES

Type 1: Insulin-dependent diabetes mellitus (IDDM) it is characterised by an autoimmune-mediated destruction of the pancreatic beta cells that are responsible for the production of insulin, leading to an absolute deficiency of insulin³⁻⁶. Patients with type 1 diabetes will need to take insulin injections for the rest of their life. They must also ensure proper blood-glucose levels by carrying out regular blood tests and following a special diet.

1. Lack of insulin.
2. Due to destruction of beta cell.
3. Majority of cases are autoimmune antibody.(A)
4. But some are idiopathic.(B)
5. Requires exogenous insulin⁷⁻¹⁰.

Some people may be able to control their type 2 diabetes symptoms by losing weight, following a healthy diet, doing plenty of exercise, and monitoring their blood glucose levels. However, type 2 diabetes is typically a progressive disease - it gradually gets worse - and the patient will probably end up have to take insulin, usually in tablet form. Being overweight/obese causes the body to release chemicals that can destabilize the body's cardiovascular and metabolic systems.

1. Insulin circulation is low, normal or even high.
2. Characterized by hyperglycemia and insulin resistance¹¹.

The majority of gestational diabetes patients can control their diabetes with exercise and diet. Between 10% to 20% of them will need to take some kind of blood-glucose-controlling medications. Undiagnosed or uncontrolled gestational diabetes can raise the risk of complications during childbirth. The baby may be bigger than he/she should be¹². The most common symptoms of diabetes are frequent urination, have you been going to the bathroom to urinate more often recently? Do you notice that you spend most of the day going to the toilet? When there is too much glucose (sugar) in your blood you will urinate more often, Disproportionate thirst, Intense hunger, Weight gain, Unusual weight loss, Increased fatigue, Irritability, Blurred vision.

Complications linked to badly controlled diabetes:

Below is a list of possible complications that can be caused by badly controlled diabetes:

- 1. Eye complications** - glaucoma, cataracts, diabetic retinopathy, and some others.
- 2. Foot complications** - neuropathy, ulcers, and sometimes gangrene which may require that the foot be amputated

3. Skin complications - people with diabetes are more susceptible to skin infections and skin disorders

4. Heart problems - such as ischemic heart disease, when the blood supply to the heart muscle

is diminished

5. Hypertension - common in people with diabetes, which can raise the risk of kidney disease,

eye problems, heart attack and stroke

6. Mental health - uncontrolled diabetes raises the risk of suffering from depression, anxiety and some other mental disorders

7. Hearing loss - diabetes patients have a higher risk of developing hearing problems

8. Gum disease - there is a much higher prevalence of gum disease among diabetes patients.

How to determine whether you have Diabetes, Prediabetes or neither

Doctors can determine whether a patient has a normal metabolism, prediabetes or diabetes in one of three different ways - there are three possible tests:

1. The A1C test

- at least 6.5% means diabetes
- between 5.7% and 5.99% means prediabetes
- less than 5.7% means normal

2. The FPG (fasting plasma glucose) test

- at least 126 mg/dl means diabetes
- between 100 mg/dl and 125.99 mg/dl means prediabetes
- less than 100 mg/dl means normal

An abnormal reading following the FPG means the patient has impaired fasting glucose (IFG)

3. The OGTT (oral glucose tolerance test)

- at least 200 mg/dl means diabetes
- between 140 and 199.9 mg/dl means prediabetes
- less than 140 mg/dl means normal

An abnormal reading following the OGTT means the patient has impaired glucose tolerance (IGT)¹³.

Insulin is a hormone. It makes our body's cells absorb glucose from the blood. The glucose is stored in the liver and muscle as glycogen and stops the body from using fat as a source of energy. Porcine insulin, insulin from a pig, is the most similar to human insulin¹⁴. The

pancreas is part of the digestive system. It is located high up in your abdomen and lies across your body where the ribs meet at the bottom. The pancreas has two principal functions, It produces pancreatic digestive juices, It produces insulin and other digestive hormones. How to help prevent complications, Keep your blood pressure under 130/85 mm Hg, Keep your cholesterol level below 200 mg, Check your feet every day for signs of infection, Get your eyes checked once a year., Get your dentist to check your teeth and gums twice a year¹⁵. Diabetes in the family. If you have a relative who has/had diabetes your risk might be greater. The risk increases if the relative is a close one - if your father or mother has/had diabetes your risk might be greater than if your uncle has/had it. A person who has been diagnosed as having impaired fasting glycaemia or impaired glucose tolerance and does not have diabetes runs a significantly higher risk of eventually developing Type 2. People with IFG or IGT have higher than normal levels of glucose in their blood. In order to prevent diabetes, it is crucial that you eat healthily, keep an eye on your weight and do exercise¹⁶.

Diabetes Management:-Checking your blood glucose levels, Balance insulin intake with food and lifestyle, stop smoking.

Conclusion: -The blood sugar level is less than 140mg/dl is considered normal. A blood sugar level from 140-199 is considered prediabetes, A blood sugar level of 200mg/dl are higher indicates type-2 diabetes. Untreated high blood sugar from diabetes can damage nerves, eyes, kidney and other organ too. There are various types of diabetes which effect people one or another way. It should be treated well and good cure should be provided to suffering patient.

Reference:-

1. Phillips JM, Phillips JM, Parish NM, Raine T et al. Type 1 diabetes development requires both CD4+ and CD8+ T-cells and can be reversed by non-depleting antibodies targeting both T-cell populations. *Rev Diabet Stud*, 6(2):97-103, 2009.
2. Sharma A, Parashar b, vatsa E, chandel S and sharma S. phytochemical screening and anthelmintic activity of leaves of cedrus deodara (roxb.), *world journal of pharmacy and pharmaceutical sciences*, 5(8): 1618-1628, 2016.
3. sharma a, parashar b, vatsa e, chandel s and sharma s. a review on morchella esculanta: therapeutically potent plant, *world journal of pharmacy and pharmaceutical sciences*, 5(9): 685-699, 2016.
4. Amit Sharma, Bharat Prashar, Pankaj Arora, Cedrus deodara: A Medicinal Herb, *Der Pharma Chemica*, 10(4): 6-10, 2018.

5. sharma a, sharma s, parashar b, rohit and naresh, mesua ferrae linn:- a review of the indian medical herb. *sys rev pharm*,8(1):19-23, 2017.
6. sharma a and parashar b. a review on trillium govianum. *world journal of pharmaceutical research*.volume 6(2): 500-511, 2017.
7. Gorodezky C, Alaez C,Murguia A et al.HLA and autoimmune diseases: Type1 Diabetes as an example. *Autoimmune Eev*, 5(3):87-94,2006.
8. sharma a and parashar b. trillium govianum: a boon to medicinal world. *der pharma chemica*,9(14):14-30, 2017.
9. halder s and sharma a. student of pharmacy, a review on kigelia africana, *world journal of pharmaceutical research*. volume 6, issue 11, 389-411. 2017.
10. rai a, sharma a and parashar b, m.pharm student, cannabis sativa: boon or curse. *world journal of pharmacy and pharmaceutical sciences*, 6(10): 332-338.2017.
11. Rubin RR, Peyrot M. Quality of life and diabetes. *Diabetes Metab Res Rev* (15):205-18, 1999.
12. Luscombe FA. Health-related quality of life measurement in type 2 diabetes. *Value Health*,3(1):15-28, 2000.
13. Rubin RR, Peyrot M. Quality of life and diabetes. *Diabetes Metab Res Rev* 15:205-18, 1999.
14. Pessin JE,Saltiel AR.Singnaling pathways in insulin action; molecular targets of insulin resistance. *J Clin Invest*,106(2):165-169, 2000.
15. Riserus U, Willett WC,Hu FB.Dietary fats and prevention of type 2 diabetes. *Peogress in Lipid Research*, 48(1):44-51, 2009.
16. Malik VS, Popkin BM ,Bray GA,Despres JP, Hu FB. Suger Sweetened,Beverages, Obesity,Type 2 Diabetes and Cardiovascular Disease risk,121(11):1356-64, (2010).