

Pathophysiology Of Diabetes Type 1, Type 2, And Gestational

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Diabetes is a disease that occurs when the blood sugar level in the blood rises to abnormal. It is controlled by the Insulin hormone produced by the pancreas. The body system sometimes is unable to produce enough insulin, and as a result, glucose regulation in the cells is hindered. The glucose concentrates in the blood without reaching cells; this can cause health problems. It is of three major types. [Type 1 diabetes](#), Type 2 diabetes, and Gestational diabetes. Signs and Symptoms Include Blurred vision, yeast infections, weight loss and loss of energy, among others.

Pathophysiology Of Diabetes Type 1

Diabetes Type 1 occurs when the immune system destroys and kills insulin hormone, which synthesizes the production of beta cells. As a result, the host experiences a deficit of beta cells and insulin as well due to the presence of anti-insulin. Pancreases islets are therefore destroyed by the, hindering the production of sufficient insulin (American Diabetes Association, 1966). Consequently, glucose does not lead to the cells. This causes type 1 diabetes. Addedly, this type of diabetes only requires insulin therapy. Its risk factors include family history, in that it's genetic from one family member to another. Also, pancreas diseases, if available, insulin production is minimized, hence diabetes. Pancreases can be damaged by various infections or illnesses.

Pathophysiology Of Type 2

Type 2 diabetes is caused by the relative insulin deficiency. Beta cells produced are less since the body is unable to produce sufficient insulin. As a result, insulin resistance is developed. Type 2 diabetes is always linked to Obesity, which is the major cause of insulin resistance. Therefore, exercise is the most recommendable treatment. Type 2 risk factors include Obesity, which is a top cause of type 2 diabetes. Moreover, impaired glucose tolerance is a pre-diabetes that can be diagnosed by simple blood. Insulin resistance develops as a result of insufficient insulin produced by the pancreas. Beta cell deficiency thereby leads to the existence of diabetes 2. Ethnic background and family history of diabetes are genetic. Age is another risk factor, especially for the 40-45 years of age.

Pathophysiology Of Gestational Diabetes

Gestational diabetes occurs as a result of excessive insulin during pregnancy. This does increase blood sugar and state of insulin resistance. The physiology behind symptoms and complications includes

- Increased thirst due to high glucose concentration
- Frequent urination due to excess fluid intake
- Poor wound healing due to increased glucose concentration which provides nutrition to microbes, diminishing immunity.
- Kidney damage, thereby control of urine, is diminished or eroded.
- Weight loss as a result of lost calories in the urine
- Nerve damage was leading to impotence as a result of arm and leg damage.

Risk factors include Obesity, family history, and age (older one is when getting pregnant). Ethnic background and glucose intolerance.

Steps For Prevention

One should manage blood pressure, keep weight within or near a healthy range, thirty minutes of exercise more often, and have a balanced diet.

Treatment, prevention and medication for diabetes: Diabetes Type One and Two Treatment

The level of sugar is the main cause of diabetes; hence, in trying to treat or control diabetes, sugar consumption needs to be reduced at all costs. However, type one is known to relate to insulin, that is, diet changes and exercises (Shamoon, 1992). Type 2 diabetes is managed by non-insulin medications, which include reducing weight, changing diet, etc., because it's known to occur in the environment of obesity. Also, in administering medication for type 2 diabetes, one needs to take into consideration the following factors,

- Patients health status,
- The cost to the patient or the used health care system,
- Side effects of each referred medication and
- Any medical issues related matters.

Medications of type 2 diabetes can be treated in various ways to reduce blood glucose levels. This is done by increasing insulin sensitivity and glucose excretion to reduce glucose concentration in the blood and slow digestion and absorption processes to reduce the number of carbohydrates absorbed. During treatments, insulin can be administered through syringes, prefilled ends or by the use of an insulin pump.

Care

Proper nutrition for the patient who has diabetes is a major concern. However, there has never been any specific diet outlined for diabetic patients (Shamoon, 1992). Endocrinologists are the specialists treating diabetes. Care specialists, including family practice specialists, can also indulge in diabetes treatment. Diabetes is treated with insulin administration, body exercise, and diet consideration. Type two diabetes is treated by reducing weight, adhering to a type two diet and thorough exercise to excrete more glucose from the body. Oral medication can be done to control blood sugar; unless it fails, the insulin method is initiated. However, oral medication does not apply to type one diabetes.

Considering Diabetes Diet

When considering the diet for people with diabetes, the amount of carbohydrates, fibers, fats, and proteins consumed is primary. However, the Glycemic index is a major factor since foods with a low rate of glycemic index raise blood sugar slowly compared to those with a high glycemic index. As a result, one is advised to take diets low in glycemic.

Reducing Body Weight

Additionally, reducing body weight is a good treatment for type two diabetes since this increases body sensitivity to insulin, which controls blood sugar in the body.

Medication

Diabetes two medications are done to increase the insulin output and reduce the amount of glucose released from the liver. Also, medication increases the rate of response cells to insulin and ensures a delay of digestion in the stomach to decrease the absorption of carbohydrates. Therapy for type 2 diabetes is perceived as important. However, there are factors to be considered before this therapy is administered (Vilsbøll et al., 2003). These include Changes in blood sugar control by each medication done to the host, harmful results of the therapy, issues that may affect the patient under medication, compliance like the timing of medication, and, importantly healthcare system of the patient. The cost of drug therapy is relatively lower than chronic management caused by poorly controlled diabetes. Moreover, Patients with type 2 diabetes should always be ready to seek help from their healthcare professionals to achieve a better approach to minimizing risks and events. Patients, moreover, should have in mind that Control of diabetes begins with a healthy lifestyle, regardless of prescribed medications, not forgetting Diet and exercise.

Nursing Diagnosis

While diabetes is a medical diagnosis, a nursing diagnosis Administered to the patient is required since it helps the patient recover beyond treatments. This nursing diagnosis includes.

- Imbalance nutrition, which is related to less carbohydrate metabolic process as a result of deficit insulin,
- Inadequate intake resulted from nausea and vomiting of food taken.
- Less volume of fluids, as a result of less fluid intake and osmotic diuresis from hyperglycemia.
- Impaired skin problem due to decreased sensory sensation, lack of information about skincare and decreased activity or mobilization.
- Decreased activity due to decreased energy caused by lack of enough food intake.
- Increased risk of injuries as a result of decreased sensory sensation. Associated or visual and weakness.
- Cognitive limitations as a result of an inability to remember knowledge based on the management of the diabetes disease.
- Moreover, ineffective management of therapeutic rules at home due to a lack of knowledge.

Nursing Interventions

- Blood sugar monitor at a normal range. The patient has different target levels; one of each should be identified, and the patient should be taught the advantages of monitoring glucose levels. Use of a glucometer to enable patients to take note of their sugar level even in the absence of a caretaker. Patients should be taught how to use their glucometer and record their results.
- In insulin administration, one should know which insulin to use and how it works. Hosts do this by following the guidelines provided for the insulin.
- Education based on nutrition should be provided to the patients to enable them to know the kinds of food to avoid and why.
- Administration of insulin, the patient is taught how to rotate injection sites and to clean the site before inserting the needle.
- Moreover, patient glucose should be checked every time. Feet education is offered to the patient to expand their knowledge on feet as a result of neuropathy, which develops because of decreased blood flow. They should be able to check their feet every day.
- Education on health, fitness, and blood pressure monitoring is emphasized as well. A diabetic person had difficulties in vision and kidneys and was prone to stroke. Therefore, maximum care is required.

References

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