



Diabetes and Its Complications

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Abstract

Diabetes mellitus is a metabolic disorder syndrome characterized by: Insufficient production of insulin by the pancreas; Reduction of the biological action of insulin; Both together. Purpose: It consists of identifying the risk factors that lead to the occurrence of this metabolic disorder. Timely diagnosis and appropriate treatment depending on the type of diabetes. Follow the treatment advised by the doctor. Material and Methods: Recognize the factors that cause these disorders. Informing the patient about risk factors. Prevention and screening of this disorder through diet and analysis. Care for these patients based on descriptive diagnosis. Care and supervision of the emotional side of these patients, the way they experience this period.

Keywords: diabetes, insulin, type I, type II, nursing care, risk factors, metabolic disorder

1. Introduction

1.1 Diabetes and its complications

Diabetes mellitus is a metabolic disorder syndrome characterized by:

- I. Insufficient production of insulin by the pancreas
- II. Reduction of the biological action of insulin
- III. Both together

The defect lies in the inability of insulin, a hormone produced by the pancreas, to keep blood sugar levels at normal values. This disease can be caused by genetic factors or it can develop during life. Glucose is the main food for cells, its level is maintained within certain norms. In a normal individual the values range from 70-100 mg / DI sober.

1.2 Types of diabetes

The new classification system is based on the American, British, Australian and European systems.

Classifications by type:

- I. TYPE-I insulin-dependent diabetes mellitus (IDDM)
- II. TYPE II non-insulin-dependent diabetes mellitus (NIDDM)

WEAKNESS OF GLUCOSE TOLERANCE (IGT)

MELLITUS DIABETES OF GRAVIDANCE (GDM)

Diabetes is divided into two types depending on the age of the patient where the disease occurs.

In type I it appears in the ages between 0-40 years.

In type II he appears over the age of 40 years.

Type I is always hereditary and is treated by injecting insulin under the skin once or several times a day.

Type II is 50% hereditary and 50% non-hereditary.

1.3 Etiology

The etiology of this disease is still unknown.

The causes are also related to the type of diabetes and vary.

In type II diabetes genetic defects and obesity play an important role.

Both type I and type II diabetes have a genetic component, although the exact genetic role and causative factors are different for each type.

Type I results from the destruction of the beta cells of the islets of Langerhans which are responsible for insulin production. This destruction is the result of an immunological defect characterized by the production of anti-beta antibodies.

Viral factors: have been described as the cause of type 1 diabetes mellitus since 1965. (1)

1.4 Diabetes Clinic

When diabetes has progressed, especially in cases where insulin is not produced, a series of clinical signs appear, which are typical and greatly facilitate the detection of its diagnosis.

These signs appear:

- ✓ frequent urination (polyuria)
- ✓ Big thirst
- ✓ Weight loss (weight loss)
- ✓ Big hunger

The clinical signs are:

- ✓ Polyuria, polydipsia, polyphagia with about 41%
- ✓ With two signs (polyuria, polydipsia) with about 24%
- ✓ With other early signs
- Hypoglycemia 2%
- Weight loss 48.6%
- Weight gain 23%
- Drying of the mucosa
- Weakness 70.9%
- Headache 40%
- Dizziness 42.7%
- Total contribution 20%
- Image blur 20.3%
- Skin infections 20.8%

Complications of diabetes

- Acute complications of diabetes
- Diabetic group
- Chronic complications of diabetes

1.5 Nursing diagnosis

- Disruption of hydro-electrolyte balance as a result of disease.
- Risks for skin changes with deterioration of integrity, as a result of infections, sweating, dryness, wounds.

- Reduction of the body's energy reserves as a result of the way of nutrition.
- Decreased fluid volume due to inability to meet fluid needs.
- State of anxiety and fear due to lack of knowledge about the disease and its treatment.
- Characteristic smell of acetone in patients' breathing.
- Hyperglycemia due to unbalanced diabetes.

1.6 Nursing intervention

Nursing intervention consists in relieving the patient from the anxiety and stress of the disease, it does not allow family members and relatives to dramatize the disease by informing them. Get acquainted with the symptoms of the disease and its complications. In case she sees signs of hypoglycemia the nurse intervenes immediately by measuring glycemia with a glycometer and when the patient is conscious sugar is given orally, otherwise the patient is given intravenous perfusion with 5% glucose or in cases of severe hypoglycemia 40% glucose is applied intravenously according to the dose prescribed by the doctor. When the patient presents with symptoms of hyperglycemia, the physician is notified of the insulin dose by keeping the patient under observation.

In diabetic patients, nursing care lies in recognizing the signs of complications that the disease gives. What are the injuries it gives us:

- ✓ Skin and mucous membranes
- ✓ Care in the cardiovascular system
- ✓ In the urinary system
- ✓ Diabet Diabetic foot
- ✓ Dhe Skin and mucous membrane care (1)

1.7 Treatment of diabetes

Diabetes treatment is based on the type of diabetes and consists of:

- Diet
- Medication therapy

1.8 Dietary treatment

Malnutrition is one of the main factors in the onset of diabetes but this does not mean that diabetics should go without food to keep the disease under control. Recently, a healthy diet is being recommended for these patients, which means that they can be fed but in moderation.

1.9 Dietary rules

Calories are determined as a function of body weight. The diet should be hypocaloric only in cases of overweight. Delivery of meals is intended to avoid the heavy load of carbohydrates immediately after meals and subsequent hypoglycemia.

3 main meals and 2 intermediate meals are recommended:

- ✓ Breakfast 20%
- ✓ Lunch 30%
- ✓ Dinner 20%

Something before bed can be taken to avoid hypoglycemia at night. The patient with diabetes must follow some rules such as:

- Prohibition of smoking, alcohol
- Avoid sedentary living

1.10 Drug treatment

If the recommended diet is not effective then the use of medications in the form of tablets or insulin is recommended. The doctor decides the dose of insulin, how many units to inject, the hour as well as the type. There are different types of

insulin:

Me Those with very fast action (ultralights that are injected immediately before bread, those with fast action that are injected half an hour before bread)

- ✓ Those with slow action (lenses), very slow (ultralight) and mixed ones (30 / 70,40 / 60,50 / 50) should be shaken several times gently before injecting.

Insulin Onset of action Peak action Duration

Oriente 15-30 min 2-4 hours 6-8 hours

Lenses 1-3 hours 6-8 hours 16-18 hours

Ultralente 4-8 hours 14-24 hours 28-36 hours

The insulin tree is a type of syringe pre-filled with insulin, rotating the ring to select the dose to be injected. Insulin should be injected under the skin, not into the muscle, usually in the abdomen or on the outside of the thighs or on the outside of the arm. The injection site should be changed each time.

1.11 *Tablet treatment*

Sufanilurese preparations increase the release of insulin from the pancreas and can lead to hypoglycemia if taken in excessive amounts.

The best known is DANOIL, which is taken 3 times a day 20 minutes before meals, in the dose determined by the doctor.

Side effects are very rare. Among the Biguanides the best known is the existing METAPHORMINE and also called GLUCOPHAGE. Its effect is to increase peripheral insulin sensitivity. It is taken 3 times a day, in a maximum dose of up to 2500gr after food. Does not cause hypoglycemia. It is preferred in healthy people, because it also has appetite suppressant effects. Care should be taken in cases where there is concomitant damage to the liver and heart. The dose is decided by the doctor and varies according to the patient and his tolerance.

Physical activity in diabetics

Physical activity plays an important role because it reduces the need for insulin.

- ✓ Through the activity is done the maintenance of body weight norms.
- Protects blood vessels from the formation of arteriosclerotic plaques.
- ✓ It has a positive effect also from the psychological point of view, self-confidence, better health.
- ✓ Patients with retinopathy, hypertension, or heart problems may perform these physical activities but in moderation. (1)

1.12 *Study conducted in Kruja hospital*

- ✓ The study population included 30 patients with diabetes mellitus type 2, hospitalized in the internal medicine service at the Kruja hospital during the period November-December. Patients with diabetic nephropathy in the macroalbuminuria phase, patients with urinary tract infection and those with heart failure were excluded from the study.
- ✓ For data collection, a special file was compiled, the completion of data based on anamnestic data obtained directly from the patient, as well as during clinical, laboratory and imaging examination at the time of patient admission.
- ✓ For the measurement of blood pressure sphygmomanometers with mercury column were used and HTA values were obtained > 130 / 90mmHg in more than two measurements and treatment with antihypertensives.
- ✓ Biochemical tests were performed in the hospital laboratory and blood was taken in the early morning.
- ✓ A common urinary spot was taken for analysis to assess microalbuminuria.
- ✓ Microalbuminuria are called protein excretion values between 30-300mg / g. For values > 300mg / g we are dealing with proteinuria and are excluded from the study.
- ✓ We developed a questionnaire for all patients, the questionnaire also included questions on how to eat, how to take meals, when to take insulin and in what dose to do, what exercises to do with diabetes and the age of diabetes and its association with complications such as retinopathy and diabetic nephropathy.

Each patient was told that the implementation of a strict diet would also affect the stabilization of lipids.

2. Results

Table 1:

Number of cases	Age	Tablet treatment	Insulin treatment
21	42 years+17	21 cases	
9	55 years +14		9 cases

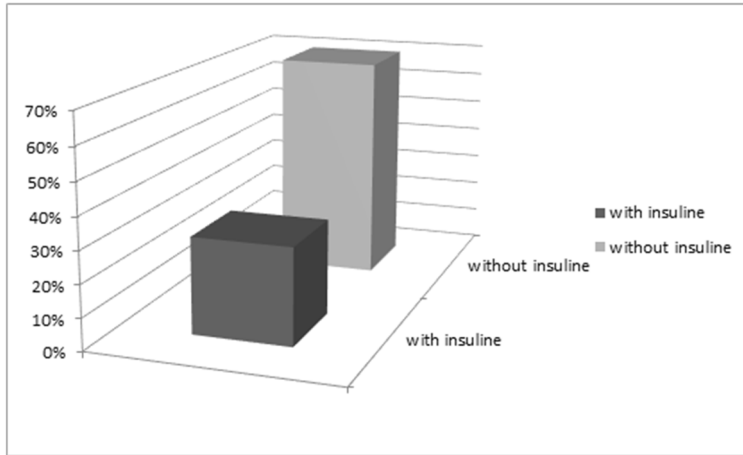


Table 2: Number of patients presenting with diabetic nephropathy

Nr of cases	Age	Number of patients presenting with diabetic nephropathy
12 cases	45 years + 22	40%

Table 3: Number of patients presenting with diabetic retinopathy

Number of patients	Age	Percentage of patients manifesting diabetic retinopathy
10 patients	52 years + 12	30%

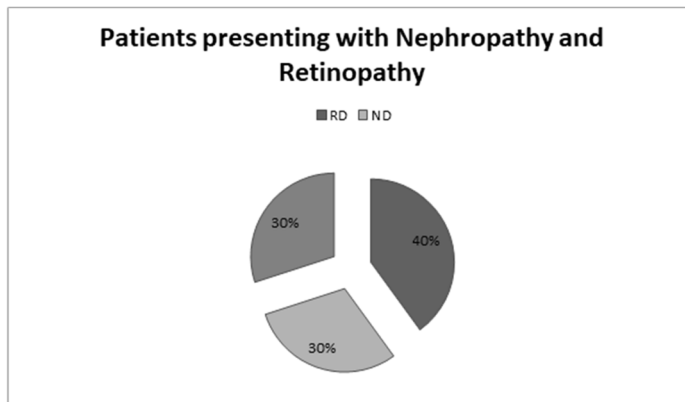
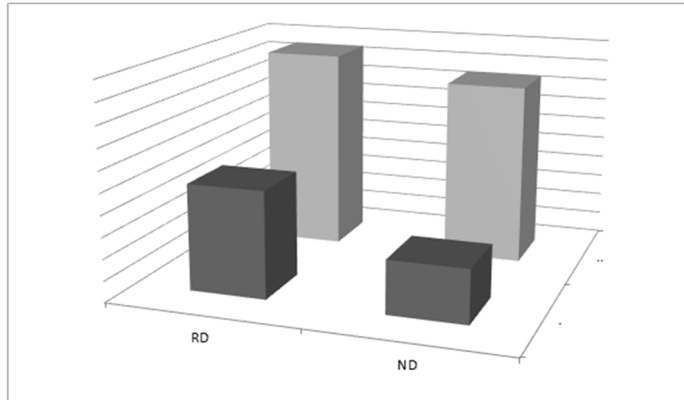


Table 4: Correlation of diabetes age with microalbuminurine

Number of patients	Age of diabetes	Microalbuminuri
19 patients	10 years +4	8 patients

Table 5: Correlation of diabetes age with retinopathy

Number og patients	Age of diabetes	Diabetic retinopathy
19 patients	10 years + 4	10 patients



3. Conclusions

The nurse manages to understand the risk factors and the disorder displayed. Realizes the proper care for these patients and advises them.

The nurse advises for consultation and diagnosis through food diet and analysis in order to prevent them .

It was also emphasized to the patients that the observance of a diet will affect the reduction of obesity that accompanies this population group and weight loss will have a positive effect on the stabilization of glycemic figures and the profile of fats.

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