THE STUDY OF NEWLY DISCOVERED CASES OF DIABETES MELLITUS IN BIHOR COUNTY

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Abstract

Diabetes mellitus is an extremely important public health problem in Romania and worldwide due to its high prevalence, serious complications and at last but not the least, due to induced high costs.

World Health Organisation estimated in 2000 that approximately 172 mil. persons suffer from this condition representing 50% of the prevalences compared to the year 1990. The prognoses show that in 2030 the level of diseased people will reach 360 mil.

The proposed study presents the analysed new cases of diabetes detected during 2011, in Bihor county and registered in the County Sub Program for Diabetes, Metabolic and Nutrition Diseases. 2500 diabetes cases were detected of which 30 new cases pertained to type I diabetes and 2470 to type II diabetes. Data were accessed from individual patient files and transcribed into author’s research files.

Key words: diabetes mellitus, prevalence, complications.

INTRODUCTION

Diabetes mellitus is a complex and heterogeneous syndrome induced by genetically or acquired disbalance of insulin secretion or/and by the resistance of the peripheral cells to insulin action which leads to profound modifications of the protein, carbohydrate, lipid, ion and mineral metabolism [1-4]. These modifications cause chronic complications especially at eyes, kidneys, heart and blood vessels.

The classical triade: polyuria, polyphagia and polydipsia are not any longer of diagnostic value due to the fact that the condition initiation is atypical or insidious. This phenomenon explains the emergence of serious, often irreversible complications [5,6].

Diabetes as condition is present worldwide. Its prevalence is continuously growing in the world and is one of the major mortality and morbidity causes [7-9].

Diabetes is one of the most frequent chronic conditions, its prevalence especially of the type II being in expansion and reaching epidemic levels worldwide. The most important causes of the prevalence are: aging of the human population, obesity, sedentary life style, the inadequate diet, urbanization and industrialization [10-12].
Epidemiological research of diabetes mellitus took a rapid pace especially after World War II. Previous attempts led to several conclusions which, at large, could not be tested. The morbidity due to diabetes was based on hospital, polyclinic and private practice statistics which provided unrealistic data due to: intended or unintended bias, impossibility for the interpolation of the obtained information to large population groups, the lack of a unified and objective methodology. For the establishment of a correct morbidity in the case of diabetes as in other conditions too, an active detection is required [12-14].

MATERIAL AND METHOD

The study includes the sum of newly detected type I and II diabetes in Bihor County during 2011. The data was provided by the County Sub-Program for Diabetes, Nutrition and Metabolic Diseases, Bihor County which is a part of the National Health System of Romania. In the activity of the County diabetes ambulatory center, the fundamental and specific unit of data collection is the dispensarization sheet, conceived and legislated by the Health Ministry of Romania. The first part of the observation sheet is permanently sight accessible and offers general information about the patient with appropriate identification data: first and last name, birth date, gender, personal numerical code, address and also the probable inception date of the condition, the certified date of the disease registration by confirmed diagnosis by a specialist in diabetology, social environment, also the confirmed health security status proved by the affiliation to one or several health security systems.

In order to gather and process the data, a personal research sheet was provided to be filled in for every patient separately.

This observation sheet contained the following data:

- The age of the patient
- The gender
- Social environment
- The weight and the height of the patient for the calculation of the body mass index.
- Diabetes mellitus type
- The chosen treatment type: diet, oral, insulin wise or both type treatments
- Chronic microangiopathic complications
- Chronic macroangiopathic complications
- Comorbidity: high blood pressure, dyslipidemia
- Systolic and diastolic arterial pressure.
RESULTS AND DISCUSSION

The study outcome consists in the following results: during 2011, in Bihor county, 2500 new diabetes mellitus cases were detected of which 30 pertained to diabetes type I and 2470 to diabetes type II. From the total of 2500 cases, 1225 were treated with oral anti-diabetes medication (OAD) and 1245 cases were treated with oral anti-diabetes medication and insulin (Table 1).

Table 1
The repartition of diabetes mellitus cases according to medication type, social environment and gender, Bihor county survey 2011.

<table>
<thead>
<tr>
<th>Medication type</th>
<th>No. of cases</th>
<th>Urban environment</th>
<th>Rural environment</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>OAD</td>
<td>1225</td>
<td>600</td>
<td>625</td>
<td>600</td>
<td>625</td>
</tr>
<tr>
<td>OAD + insulin</td>
<td>1245</td>
<td>560</td>
<td>685</td>
<td>785</td>
<td>460</td>
</tr>
</tbody>
</table>

Concerning the age of the diabetes mellitus type II inception, in Bihor county during 2011, the highest case number was recorded in the 60-70 year age group (Table 2).

Table 2
The repartition of diabetes mellitus cases according to age groups and medication type, Bihor county survey 2011

<table>
<thead>
<tr>
<th>Medication type</th>
<th>30-40 year</th>
<th>40-50 year</th>
<th>50-60 year</th>
<th>60-70 year</th>
<th>70-80 year</th>
<th>Total no. of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>OAD</td>
<td>25</td>
<td>175</td>
<td>375</td>
<td>250</td>
<td>400</td>
<td>1225</td>
</tr>
<tr>
<td>OAD + insulin</td>
<td>210</td>
<td>25</td>
<td>660</td>
<td>200</td>
<td>150</td>
<td>1245</td>
</tr>
</tbody>
</table>

Connected to chronic complications, most frequently encountered were of macro angiopathic-coronary nature (pectoral angina, myocardial arrest) followed by chronic microangiopathic and neurological complications (diabetes induced neuropathy) (Table 3).
The repartition of chronic complications induced by diabetes according to different types of medication, Bihor county survey 2011.

<table>
<thead>
<tr>
<th>Medication type</th>
<th>No. of cases</th>
<th>Retinopathy</th>
<th>Neuropathy</th>
<th>Nephropathy</th>
<th>Cerebral complications (AVC)</th>
<th>Coronary complications</th>
</tr>
</thead>
<tbody>
<tr>
<td>OAD</td>
<td>1225</td>
<td>150</td>
<td>425</td>
<td>50</td>
<td>100</td>
<td>500</td>
</tr>
<tr>
<td>OAD + insulin</td>
<td>1245</td>
<td>300</td>
<td>450</td>
<td>175</td>
<td>75</td>
<td>275</td>
</tr>
</tbody>
</table>

As function of weight and height, the index of body mass was calculated for every patient. The index indicated that a greater number of patients with diabetes type II suffered from overweight and various level obesity (Table 4).

The repartition of the body mass index according to medication type in patients suffering from diabetes, Bihor county survey 2011.

<table>
<thead>
<tr>
<th>Medication type</th>
<th>Total no. of cases</th>
<th>Normal weight</th>
<th>overweight</th>
<th>obesity</th>
</tr>
</thead>
<tbody>
<tr>
<td>OAD</td>
<td>1225</td>
<td>125</td>
<td>450</td>
<td>650</td>
</tr>
<tr>
<td>OAD + insulin</td>
<td>1245</td>
<td>160</td>
<td>610</td>
<td>475</td>
</tr>
</tbody>
</table>

CONCLUSIONS

- Diabetes mellitus is a major problem for individuals, medicine and society due to the progressive increase of cases worldwide, within all diabetes types and within all age groups.
- The aging of the human population and the modifications associated with urbanization, globalization and development increases the burden set by the diabetes all over the world, especially in the countries with low and average income where the necessary resources in order to face the associated medical problems are scarce.
- Actual and future estimations concerning the weight of diabetes are important for the allocation of the community and health care resources, for stressing the important role of the life style in diabetes emergence and to encourage the counteracting measures against the increasing prevalence trend.
- It is a straightforward link between diabetes, obesity and cardiac problems.
REFERENCES:
