Prevalence of the Metabolic Syndrome among patients with type 2 diabetes in Iraq

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Abstract

In a group of 200 Iraqi type 2 diabetic patients the Metabolic Syndrome was seen in 86% (83% of males and 94% of females). These very high figures are of great concern, and probably reflect the adoption of Western lifestyles.

Introduction

The Metabolic Syndrome is defined when three or more of the following abnormalities are present:1 • Abdominal obesity (AO) with waist circumference for men >102 cm and women >88 cm. • Serum triglycerides (TG) >1.7 mmol/L. • High-density lipoprotein (HDL) cholesterol for men <40 mg/dL (<1.0 mmol/L), and for women <50 mg/dL (<1.3 mmol/L). • Blood pressure (BP) >130/85 mmHg. • Fasting plasma glucose >110 mg/dL (>6.1 mmol/L).

The Metabolic Syndrome increases the risk for coronary heart disease and stroke by three-fold, with a marked increase in cardiovascular mortality.2 The aim of this study was to assess the prevalence of the Metabolic Syndrome in patients with type 2 diabetes in Iraq.

Patients and methods

This was a cross-sectional hospital-based study of patients with type 2 diabetes seen as in- or out-patients at the Basrah Military Hospital over a period from January to October 2002. The women were non-pregnant and serum lipids were taken after at least an 8-hour fast. Since all our patients were diabetic, the presence of two metabolic abnormalities other than diabetes was enough to establish the diagnosis of the Metabolic Syndrome. The waist circumference was measured on standing, midway between the lowest rib and the iliac crest.

Results

There were 200 patients – 145 males and 55 females. Mean age was 52 ±11 (SD) years, with a range of 28–88 years. The Metabolic Syndrome was seen in 172 patients (86%) – 120 males (83%) and 52 females (94%). Four metabolic abnormalities were present in 26%, three in 27%, and two in 32% of patients (see Table 1); hypertension was the commonest abnormality (76%) followed by high TG (69%).

Discussion

The World Health Organization (WHO) definition of the Metabolic Syndrome in 19983 is different from that of the US National Institutes of Health (NIH). The WHO definition includes micro-albuminuria, which is often difficult to measure in tropical countries. We used the NIH definition.

In this study we found a very high prevalence of the Metabolic Syndrome (86%) in Iraq. In comparison, in Saudi Arabia the Metabolic Syndrome was seen in 56% of patients with type 2 diabetes and the commonest component was hypertension.4 A possible explanation of these high rates of the Metabolic Syndrome is the adoption of Western lifestyle (e.g. overweight, physical inactivity, sedentary behaviour, and unhealthy dietary habits). The prevalence of the Metabolic Syndrome and its components is strongly dependent on the definition of the different components of the syndrome, which are still not accepted globally.5,6,7 These factors will contribute to some of the variations in prevalence.

The mainstay of management of the Metabolic Syndrome is dietary modification and exercise, which may delay the development of diabetes and decrease morbidity and mortality associated with this syndrome.

Table 1  Prevalence of different components of the Metabolic Syndrome among Iraqi patients

<table>
<thead>
<tr>
<th>Metabolic abnormalities</th>
<th>Men</th>
<th>Women</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypertension</td>
<td>106</td>
<td>47</td>
<td>153 (76%)</td>
</tr>
<tr>
<td>High TG</td>
<td>105</td>
<td>33</td>
<td>138 (69%)</td>
</tr>
<tr>
<td>Abnormal obesity</td>
<td>83</td>
<td>50</td>
<td>133 (66%)</td>
</tr>
<tr>
<td>Low HDL</td>
<td>56</td>
<td>34</td>
<td>90 (45%)</td>
</tr>
</tbody>
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References