

MEETING ABSTRACT

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Laboratory markers of diabetes mellitus in the elderly

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Background

Diabetes mellitus is a leading cause of morbidity and mortality in Western countries. To prevent diabetic chronic complications, various trials have validated the need for tight glycemic control [1]. Important laboratory markers used in the follow-up of diabetic patients include glycated hemoglobin (HbA1c) [2,3] and microalbuminuria [3], an important predictor of diabetic nephropathy.

The aim of this study is to evaluate HbA1c as a significant index of glycemic control, and to determine the prevalence of microalbuminuria in elderly diabetic patients in our geographic area.

Materials and methods

HbA1c levels were measured using a high-pressure liquid chromatography methodology (HA 8160, Menarini Diagnostics), and analysed in 352 consecutive diabetic patients (age: >41 years) within a two month time period (September-October 2009). The optimal HbA1c target for diabetic patients was considered <7%, as recommended by the American Diabetes Association. Urinary albumin levels were measured by an immunoturbidimetric assay (BN II, Dade Behring) in 226 consecutive diabetic patients (age: >41 years) within the same time period. Microalbuminuria was diagnosed if albumin in urine samples was > 30 mg/L.

Results

Within the patients examined, the overall HbA1c mean is 6.95% +1.51, and the overall prevalence of high HbA1c (>7%), indicative of poor glycemic control, is 34.4%. Interestingly, the prevalence of patients with high HbA1c is over 30% in any age range examined, with a peak in the age range 61-70 (Table 1). However, while

Table 1

| Age range and number of patients | HbA1c (mean+SD) | Patients with HbA1c >7% |
|----------------------------------|-----------------|-------------------------|
| 41-50 (n = 49) | 6.58% + 1.82 | 16 (32.6%) |
| 51-60 (n = 85) | 7.10% + 1.74 | 27 (31.8%) |
| 61-70 (n = 112) | 7.14% + 1.53 | 46 (41.1%) |
| 71 and over (n = 106) | 6.86% + 1.07 | 32 (30.2%) |

Table 2

| Age range and number of patients | Patients with microalbuminuria |
|----------------------------------|--------------------------------|
| 41-50 (n = 48) | 4 (8.3%) |
| 51-60 (n = 57) | 5 (8.7%) |
| 61-70 (n = 62) | 17 (27.4%) |
| 71 and over (n = 59) | 17 (28.9%) |

the overall prevalence of microalbuminuria is 19.2%, in agreement with data reported by the Italian Ministry of Health, microalbuminuria is diagnosed in about 8% of diabetics under 60 years, and in almost 30% of patients over 60 years (Table 2).

Conclusions

Our data indicate that a sub-optimal glycemic control is observed in more than 30% of the diabetics examined, regardless of age. Furthermore, our data confirm that older age is associated with an increased risk of microalbuminuria and progressive impairment of renal function.

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