



ORIGINAL ARTICLE

Differences in clinical and biological characteristics and prevalence of chronic complications related to aging in patients with type 2 diabetes[☆]



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Abstract Type 2 diabetes mellitus (T2DM) is a chronic, highly prevalent disease that increases with age. Because of this, and due to its chronic complications, T2DM causes high human, social, and financial costs. In addition, the elderly population with T2DM has a marked clinical heterogeneity. Therefore, our main objective was to analyze the relationship of age with the clinical and biological manifestations of the disease and the prevalence of chronic complications in patients with T2DM.

Material and methods: A cross-sectional study of a large population with T2DM (n=405) randomly selected from a Diabetes Unit and 2 health care centers (60%). The clinical, anthropometric, and biochemical variables of the subjects were collected using standard methods to assess the effect of age on the clinical and biochemical phenotype of patients with T2DM.

Results: We have noted that patients with T2DM >70 years old have a clinical and biochemical phenotype different from younger subjects (<60 years) including longer times since diabetes onset, higher diastolic blood pressure levels, and lower body mass index (BMI) values. As regards to biological variables, these patients have lower triglyceride levels, impaired kidney function, and lower HbA1c values. Prevalence of metabolic syndrome is lower in patients with T2DM >70 years of age. Age was inversely related to parameters associated to metabolic syndrome (BMI, waist circumference, blood pressure, and triglyceride levels).

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PALABRAS CLAVE

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Conclusions: We have defined the clinical and biochemical profile of patients with T2DM >70 years attending health care centers. In addition, the prevalence of stroke, kidney disease, and distal symmetrical polyneuropathy is higher in patients with T2DM >70 years as compared to younger patients (<60 years).

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Diferencias en las características clínico-biológicas y prevalencia de complicaciones crónicas en relación con el envejecimiento de pacientes con diabetes tipo 2

Resumen La diabetes tipo 2 (DMT2) es una enfermedad con elevada prevalencia que aumenta con la edad. Por este motivo y por sus complicaciones crónicas genera elevado coste humano, social y económico en la población mayor. Además, la población mayor con DMT2 presenta una marcada heterogeneidad clínica. Por lo que nuestro objetivo principal es conocer cómo se relaciona la edad con el fenotipo clínico-biológico y cuál es la prevalencia de complicaciones crónicas en el paciente con DMT2.

Material y métodos: Estudio transversal de una amplia población de DMT2 (n=405) seleccionada de forma aleatoria de una Unidad de Diabetes y 2 centros de salud (60%). En estos sujetos se recogieron variables clínicas, antropométricas y bioquímicas para conocer el efecto de la edad en el fenotipo clínico-biológico de los pacientes con DMT2.

Resultados: Hemos observado que los pacientes con DMT2 >70 años presentan un fenotipo clínico y bioquímico diferente al de los sujetos más jóvenes. Se trata de sujetos con mayor tiempo de evolución de la diabetes, mayor valor de la presión arterial diastólica y menor índice de masa corporal (IMC). Con respecto a las variables biológicas, estos sujetos presentan menor valor de triglicéridos, empeoramiento de la función renal y menor valor de HbA1c. La prevalencia de síndrome metabólico es menor en los sujetos con DMT2 >70 años. La edad se relacionó de forma inversa con parámetros relacionados con el síndrome metabólico (IMC, perímetro de cintura, presión arterial y triglicéridos).

La prevalencia de las complicaciones crónicas fue diferente. Así, la prevalencia de accidente cerebrovascular, nefropatía diabética y polineuropatía distal simétrica en la población con DMT2 >70 años fue mayor.

Conclusiones: Hemos definido el perfil clínico-biológico del paciente con DMT2 > 70 años que acude a centros sanitarios. Los sujetos con diabetes tipo 2 >70 años no presentan el fenotipo de síndrome metabólico observado en los que tienen DMT2 más jóvenes. Además, la prevalencia de accidente cerebrovascular, nefropatía y de polineuropatía distal simétrica es mayor en los pacientes con DMT2 > 70 años.

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Introduction

Type 2 diabetes mellitus (T2DM) is a highly prevalent disease, and its prevalence increases with age. In Spain, the Di@bet.es study estimated that over one half of the population with T2DM was over 65 years of age. In that study, its prevalence in people over 75 years old was 30.7% in males and 33.4% in females, with diagnosis unknown in 10% of cases.¹ In our autonomous community, the overall prevalence of diabetes is 14.1%. It is more common in males at all ages, and its prevalence clearly increases with age, reaching 43.7% in people over 80 years of age.²

The increased prevalence and incidence of T2DM with age tends to have a greater social and personal impact on this group of subjects due to chronic complications.^{3,4} In addition, 75% of worldwide healthcare expense for diabetes in 2013 was incurred for patients aged 50–79 years.⁵

Moreover, age is a strong predictor of cardiovascular disease in this group of subjects with diabetes.^{4–6}

The elderly population with T2DM has a marked clinical heterogeneity in terms of diabetes presentation and duration, chronic complications, associated comorbidities, functional status, and life expectancy. Thus, it is well known that clinical expressivity in patients with T2DM is low, which makes diagnosis difficult.^{7,8} Moreover, elderly patients with T2DM without obesity have no increase in glucose production in the liver, and their predominant pathophysiological change is impaired insulin secretion.^{7,8}

On the other hand, elderly subjects with diabetes have a very high risk of hypoglycemia, due in many cases to kidney function impairment and malnutrition, along with many other factors, such as decreased glucagon secretion and an impaired perception of warning symptoms of hypoglycemia.^{9,10}

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