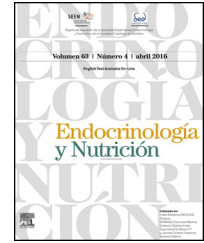ENDOCRINOLOGÍA Y NUTRICIÓN

ORIGINAL ARTICLE

Use of healthcare resources and costs associated to the start of treatment with injectable drugs in patients with type 2 diabetes mellitus ☆

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Abstract

Objectives: The main objective was to assess resource use and costs of starting treatment with insulin or injectable GLP-1 receptor analogs (GLP-1 RAs) in a Spanish population of patients with type 2 diabetes mellitus. Treatment adherence and persistence were also determined for both treatment groups.

Patients and methods: A retrospective, non-interventional, observational study was conducted. Patients aged ≥20 years who started treatment with insulin or GLP-1 RAs in the 2010–2012 period were recruited. Use of healthcare resources was estimated to evaluate healthcare costs in these two groups of patients (medical visits, hospital stay, emergency visits, diagnostic or treatment requests, medication). Clinical information including body mass index (BMI, kg/m^2), metabolic control (HbA1c), adherence, persistence, and complications hypoglycemia, and cardiovascular events (CVE) was collected. The follow-up period was 12 months. Only direct healthcare costs were considered.

Results: A total of 1301 patients with a mean age of 67.6 years (51.6% males) were recruited. Of these, 71.9% and 28.1% were on treatment with insulin and GLP-1 RA respectively. After one year of follow-up, patients treated with GLP-1 RAs were found less visits to primary care (8 vs. 11; $p < 0.001$) and specialized care (1.0 vs. 1.8; $p < 0.001$), hospital stays (0.3 vs. 0.7; $p = 0.030$) and

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less visits to the emergency room (0.8 vs. 1.6; $p < 0.001$). Patients treated with GLP-1 showed greater adherence (88.1% vs. 82.7%; $p < 0.001$) and persistence (62.0% vs. 55.9%; $p = 0.046$), and had less hypoglycemia episodes (13.4% vs. 18.7%; $p = 0.022$), with similar metabolic control (HbA1c: 7.2% vs. 7.4%; $p = 0.049$), BMI (29.1 vs. 30.9 kg/m^2), and CVE rate (9.1% vs. 11.5%; $p = 0.330$) respectively. The mean corrected direct healthcare cost per patient was €1787 vs. €2005 ($p = 0.046$.)

Conclusions: Patients treated with GLP-1 RAs caused lower direct healthcare costs for the National Health System than patients treated with insulin. The results may be explained by greater treatment adherence and lower hypoglycemia rates in patients treated with GLP-1 RAs. Additional studies are needed to confirm these possibilities.

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PALABRAS CLAVE
Diabetes tipo 2;
Consumo de recursos sanitarios;
Costes sanitarios;
Adherencia;
Persistencia;
Hipoglucemias

Consumo de recursos sanitarios y costes asociados al inicio del tratamiento con fármacos inyectables en pacientes con diabetes mellitus tipo 2

Resumen

Objetivos: El objetivo principal fue evaluar el uso de recursos y costes de los pacientes con diabetes mellitus tipo 2 que inician tratamiento con insulina o análogos del receptor de GLP-1 (AR GLP-1) inyectables en un ámbito poblacional español. Por otro lado, se determinó la adherencia y persistencia al tratamiento en ambos grupos de tratamiento.

Pacientes y métodos: Diseño observacional, no-intervencionista, de carácter retrospectivo. Se incluyeron pacientes ≥ 20 años que iniciaron tratamiento con insulina o AR GLP-1 durante 2010-2012. Se determinó el consumo de recursos sanitarios relacionados con la actividad asistencial (visitas médicas, días de hospitalización, visitas a urgencias, solicitudes diagnósticas o terapéuticas, medicación) para evaluar el coste sanitario en estos 2 grupos de pacientes. Se recogió información clínica como índice de masa corporal (kg/m^2) control metabólico (HbA1c), adherencia, persistencia y complicaciones (hipoglucemias y eventos cardiovasculares). El seguimiento se realizó durante 12 meses. Solo se tuvo en cuenta los costes sanitarios directos.

Resultados: Se reclutaron 1.301 pacientes, con una edad media de 67,6 años, el 51,6% varones. El 71,9% en tratamiento con insulina y el 28,1% con AR GLP-1. Al año de seguimiento los pacientes tratados con AR GLP-1 tuvieron menos consultas a atención primaria (8 vs 11; p < 0,001), a especializada (1,0 vs 1,8; p < 0,001), hospitalizaciones (0,3 vs 0,7; p = 0,030) y visitas a urgencias (0,8 vs 1,6; p < 0,001). Los pacientes tratados con GLP-1 mostraron una mayor adherencia (88,1% vs 82,7%; p < 0,001), persistencia (62,0% vs 55,9%; p = 0,046) y menor proporción de hipoglucemias (13,4% vs 18,7%; p = 0,022) con similar control metabólico (HbA1c: 7,2% vs 7,4%; p = 0,049), índice de masa corporal (29,1 vs 30,9 kg/m^2) y tasa de eventos cardiovasculares (9,1% vs 11,5%; p = 0,330), respectivamente. El promedio/unitario de los costes sanitarios directos corregidos fue de 1.787 € vs 2.005 €; p = 0,046.

Conclusiones: Los pacientes en tratamiento con AR GLP-1 ocasionaron menores costes sanitarios directos para el Sistema Nacional de Salud que los pacientes en tratamiento con insulinas. Los resultados obtenidos podrían explicarse por una mayor adherencia al tratamiento y menores tasas de hipoglucemias en los pacientes tratados con AR GLP-1. Se necesitan más estudios para poder confirmar estas posibles razones.

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Introduction

Type 2 diabetes mellitus (T2DM) is one of the health problems with greatest social and healthcare impact in Spain. Incidence of T2DM is expected to increase in the coming decades, and it should therefore be considered as a public health problem.[1] The estimated prevalence in the population is approximately 13.8%, with rates varying depending on the different studies and methods used for diagnosis, but may be up to 20% in subjects over 75 years of age.[2,3]

As regards management, if metabolic goals are not achieved after 3–6 months with non-drug treatment, drug therapy should be started.[1,4,5] A number of drugs are currently available to treat T2DM. The vast majority of guidelines recommend use of metformin associated to lifestyle changes (diet, exercise) as first treatment step. When no adequate blood glucose control is achieved,