Complementary use of administrative and clinical data in studying disease-modifying therapies in MS in France in 2010-2015

Short title: Use of complementary data to study DMTs in MS

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Introduction

In the recent years, therapeutic management has evolved with the increasing variety of available disease-modifying therapies (DMTs). Most of data comes from clinical series, with the advantage of a strong data quality but the drawback of a potential recruitment bias. At the opposite, administrative data are exhaustive and population-based but suffer from a lack of clinical data. Considering both types of data may be relevant to better describe use of DMTs and highlight potential variations in clinical practice.

Objectives

To describe the use of DMTs in real-life settings of persons with MS (PwMS) in France over 2010-2015 period by using two different data sources: the OFSEP database ("Observatoire Français de la Sclérose en Plaques") and the national health insurance database (which covers 97% of the general population).

Methods

The two databases include respectively all PwMS from the OFSEP cohort seen in 2010-2015 (N=36,329) and all PwMS from the French national health insurance system ("Système National des Données de Santé") covered in 2010-2015 (N=112,745). DMTs accessible in both datasets were beta-interferons, glatiramer acetate, fingolimod, teriflunomide, dimethylfumarate, natalizumab, azathioprine, mycophenolate mofetil, methotrexate while rituximab, alemtuzumab, cyclophosphamide and mitoxantrone were available only through OFSEP data. The proportion of PwMS receiving each DMT was calculated and compared between the two databases.

Results

In total, 60,559 (53.7%) PwMS in the SNDS and 23,187 (63.8%) in the OFSEP database received at least one DMT over 2010-2015. In addition, 1,002 more PwMS were identified as treated with rituximab, alemtuzumab, cyclophosphamide or mitoxantrone in OFSEP database only. Injectable

DMTs were the most prescribed DMTs whatever the dataset (respectively 38.2% and 43.1% in SNDS and OFSEP). In addition, 23.1% of OFSEP patients were prescribed an oral medication versus 20.4% of SNDS patients.

Discussion

The use of multiple sources permitted to access complementary information on DMT use. Population-based datasets such as SNDS may be helpful to describe practices outside expert centers that mainly contribute to OFSEP.