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Target Congress: 2022 CMSC Annual Meeting in Fort Washington, Maryland on June 1-4, 2022

Abstract **Submission Deadline**: January 31, 2021 at 11:59 EST.

Word Count: 2,472/2,500 characters (including spaces, excluding disclosures); The title may not exceed **250 characters including spaces** (Title=118 characters)

Identifying signs of progression among people with multiple sclerosis (MS) using administrative healthcare claims data

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BACKGROUND

With the advent of disease modifying therapies (DMTs) for progressive forms of MS, identification of patients with progressive disease is a critical step in real-world effectiveness assessments, yet data are limited as most studies apply relapse proxies in administrative claims data, which lack distinct indicators for progression.

OBJECTIVE

The study aimed to develop a claims-based algorithm to identify and characterize patients with signs of MS progression using a U.S.-based administrative claims database.

METHODS

This retrospective cohort study used IQVIA's PharMetrics Plus database in adults with an MS diagnosis between 01 Jul 2012 and 31 Dec 2019 (first claim date=cohort entry date). Patients had ≥6 months of continuous enrollment before and after cohort entry. MS disability level was assessed during each 6-month time interval from 6 months prior to cohort entry to the end of follow-up via EDSS-related symptoms, durable medical equipment (DME) use (e.g. wheelchair), and incontinence-related surgical procedures. MS progression was defined as having evidence of certain symptoms/DMEs or if there was an increase in disability sustained over 3 consecutive time intervals. Index date was defined as the date of progression; a proxy date was assigned if no progression was observed. A logistic regression model was used to assess independent predictors of progression.

RESULTS

Overall 81,647 adults were included in the study (mean age 47.7 years; 75.3% female). A total of 40,610 (49.7%) were classified as progressed. Significant predictors of progression included older age (odds ratio [OR]: 1.02; 95% confidence interval [CI]: 1.02, 1.02), female sex (OR: 1.09; 95% CI: 1.03, 1.15), chronic pain (OR: 1.26; 95% CI: 1.17, 1.37), COPD (OR: 1.28; 95% CI: 1.04, 1.58), dementia (OR: 1.66; 95% CI: 1.27, 2.17), MI (OR: 1.18; 95% CI: 1.01, 1.37), paralysis (OR: 1.23; 95% CI: 1.05, 1.45), sleep disorders (OR: 1.15; 95% CI: 1.06, 1.25) and UTI (OR: 1.14; 95% CI: 1.01, 1.28). More severe MS

disability level at baseline and use of several medications to treat MS-related conditions were also independently associated with higher odds of progression.

CONCLUSION

This novel real-world study suggests that patients with higher pre-index disability level and comorbid conditions may be at higher risk of progression. Future efforts should validate the algorithm using EMR data and explore the impact of interventions such as high effective therapies to reduce risk of progression among these patients.

Submission requirements

Presentation preference*

✓ Oral or eposter presentation

Disclosure of conflict of interest

Wing Chow and Qiujun (Samantha) Shao are employees of Novartis Pharmaceuticals Corporation

Magdaliz Gorritz, Rolin L. Wade, Zifan Zhou and Hsiu-Ching Chang are employees of IQVIA Inc. and worked as consultants to Novartis Pharmaceuticals Corporation

Dr. Berkovich has received consulting fees from XXX.