MSMilan2023
9th Joint ECTRIMS-ACTRIMS Meeting
11–13 October 2023 | Milan, Italy

Abstract Number: 1445/P358

Switching from rituximab to eculizumab in patients with AQP4+ NMOSD in the United States: Impact on hospitalisations and comorbidities

Justin Lee [1],**Adrian Kielhorn * [1]**,Sami Fam [1],Emily Riser [2],Eoin Flanagan [3],

[1] Alexion, AstraZeneca Rare Disease, Boston, MA, United States, [2] Alabama Neurology Associates, Birmingham, AL, United States, [3] Department of Neurology, Mayo Clinic, Rochester, MN, United States

Introduction:

Limited data are available on outcomes among patients with aquaporin-4 immunoglobulin G-positive neuromyelitis optica spectrum disorder (AQP4+ NMOSD) switching from treatment with off-label rituximab (RTX) to eculizumab (ECU) which is FDA-approved for AQP4+ NMOSD. This retrospective claims analysis captures the impact of switching on hospitalisations and comorbidities in adult patients with AQP4+ NMOSD in the United States (US).

Objectives/Aims:

To compare number of hospitalisation claims, duration of hospital stays, and comorbidities 6 months before and 6 months after patients switched from RTX to ECU.

Methods:

The study utilised a pretest-posttest control group design1 using US claims data (IQVIA PharMetrics® Plus) collected from 1/1/2015 to 3/31/2022. Two patient groups were created: a switch group (n=20; patients started with RTX claim and later had an ECU claim) and a control group (n=525; patients started with RTX claim and had no ECU claim). All-cause hospitalisation claims rate (identified by a confinement number) and documented comorbidities (based on the count of distinct ICD-10 codes) were compared for 6 months before and 6 months after the reference date (1-year post-RTX initiation).

Results:

Among patients in the switch group, there was a 97.5% reduction in the number of total days spent in the hospital (all-cause hospitalisation) after switching to ECU. The total number of documented comorbidities was also significantly reduced in the switch group (96% vs 5%, respectively), and the difference in the survival distributions with all-cause hospitalisation was statistically significant (P=0.01). In the control group, there was a 13% reduction in all-cause hospitalisations from after vs before the reference date.

Conclusion:

These results, consistent with the established clinical benefit of ECU as relapse preventative treatment in AQP4+ NMOSD, demonstrate that switching from RTX to ECU appears to significanly reduce of hospitalisations, days hospitalised, and documented comorbidities in patients with AQP4+ NMOSD.

References:

\1. Morris SB. Organ Res Methods 2008;11(2):364-386.

Acknowledgements:

Medical writing and editorial support were funded by Alexion, AstraZeneca Rare Disease, Boston, MA, USA, and were provided by Danielle Dalechek, MSc, of Oxford PharmaGenesis Inc., Newtown, PA, USA.

Disclosures:

Justin Lee, Adrian Kielhorn, and Sami Fam are employed by Alexion, AstraZeneca Rare Disease, Boston, MA, USA. Dr Riser is employed by Alabama Neurology Associates, Birmingham, AL, USA. Dr Flanagan has served on advisory boards for Alexion, AstraZeneca Rare Disease, Genentech, Horizon Therapeutics, and UCB. He has received research support from UCB, has received speaker honoraria from Pharmacy Times, and received royalties from UpToDate. Dr Flanagan was a site primary investigator in a randomized clinical trial on Inebilizumab in neuromyelitis optica spectrum disorder run by Medimmune/Viela-Bio/Horizon Therapeutics. Dr Flanagan has received funding from the NIH (R01NS113828). Dr Flanagan is a member of the medical advisory board of the MOG project. Dr Flanagan is an editorial board member of the Journal of the Neurological Sciences and Neuroimmunology Reports. A patent has been submitted on DACH1-IgG as a biomarker of paraneoplastic autoimmunity. The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Funding was provided by Alexion, AstraZeneca Rare Disease, Boston, MA, USA.