Prevalence of Siponimod Exposure Among Females of Childbearing Age in the U.S. Sentinel System

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BACKGROUND/OBJECTIVES

- Siponimod is a sphingosine 1-phosphate (S1P) receptor modulator
- Approved by U.S. FDA on March 26, 2019, for the treatment of relapsing forms of multiple sclerosis (MS), to include clinically isolated syndrome, relapsing-remitting disease, and active secondary progressive disease, in adults
- Embryotoxicity and fetotoxicity observed in rats and rabbits, and teratogenicity observed in rats
- No human pregnancy data collected as part of Mayzent clinical trials

- Objectives:
  - ❑ To identify use of siponimod among female members regardless of age and among females of childbearing age (15 to 50 years)
  - ❑ To identify pregnancies exposed to siponimod, overall and by trimester

METHODS

The Sentinel Distributed Database includes Data Partners who transform their data into the Sentinel Common Data Model, enabling multi-site analyses using a single analytic program.

The study period spanned from April 15, 2019, to July 31, 2024.

We identified females, females of childbearing age (15-50 years), and pregnant females exposed to siponimod with 6 months of required medical and drug health plan enrollment.

Pregnancies were identified in the SDD using a claims-based algorithm that utilizes diagnosis and procedure codes to detect pregnancy outcomes, then calculates pregnancy duration by working backward to estimate the last menstrual period through a hierarchy of pregnancy markers.

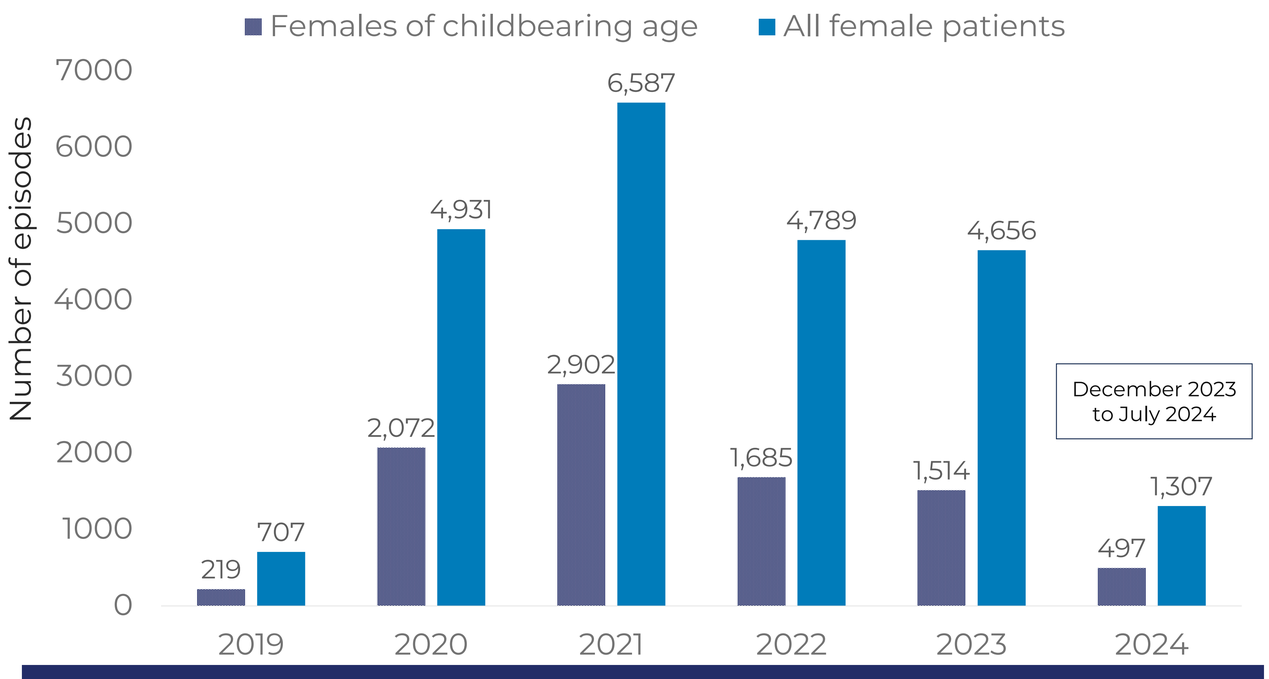
RESULTS

Among 103,603,456 eligible female patients who met the baseline enrollment and demographic requirements, we identified 1,766 female siponimod users across all age groups, this represented 22,977 exposure episodes (Figure 1).

Of these, 772 (43.7%) were of childbearing age, which corresponds to a siponimod exposure prevalence of 0.16 per 10,000 eligible females of childbearing age.

Within a cohort of 3,626,656 recorded pregnancies, fewer than 11 were exposed to siponimod. We observed a low prevalence of siponimod exposure in all women, pregnant women, and women of childbearing age within this large, real-world dataset.

Figure 1. Siponimod Exposure Episodes among Female Patients, in the Sentinel Distributed Database from April 15, 2019, to July 31, 2024



DISCUSSION

Siponimod exposure was low among females of childbearing age and very few exposed pregnancies were observed.

Possible reasons for low siponimod exposure in pregnancy:
- Warnings and precautions in labeling
- Availability of other MS therapies
- Use among older patient population (>50 years)
- Contraindicated in other countries

These results contributed to the U.S. FDA decision to release the Sponsor from postmarketing requirements to conduct a pregnancy registry and complementary study and instead require a descriptive pregnancy safety study.

CONCLUSION

This study highlights the utility of large-scale distributed data networks in providing real-world evidence to inform regulatory decision-making in post-marketing surveillance.

DISCLOSURES/ACKNOWLEDGEMENTS

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