Pregnancy-management in multiple sclerosis: analysis of the Swiss Multiple Sclerosis Cohort

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INTRODUCTION AND AIM

Managing multiple sclerosis (MS) during pregnancy and postpartum is challenging and different disease modifying treatment (DMT) strategies are possible. Individual risk of disease activity remains difficult to predict. DMT strategies during and after pregnancy are still heterogeneous. The aim of this study was to describe all pregnancies, DMTs, relapses, MRI activity and serum neurofilament light chain (sNfL) level results observed between 2012 and 2023 in the Swiss MS Cohort.

METHODS

Continuous treatment was defined as being exposed to DMT effect during the entire period from estimated pregnancy start until birth. Anti-CD20 monoclonal antibodies and natalizumab were considered as high-efficacy DMT. Measures of disease activity included relapse rate, new/enlarging T2w lesions and serum neurofilament light chain (sNfL). We compared disease activity between patients continuously treated with high-efficacy DMT and others.

RESULTS

Baseline characteristics (pregnancy start)

- 123 pregnancies, in 93 women
- Median age 32.2 years [IQR 29.3–35.7]
- Median EDSS 1.5 [IQR 1.0–2.0]
- Median disease duration 7.8 years [IQR 4.3, 10.7]

Patients with continuous exposure to high-efficacy DMT during pregnancy had a lower risk for relapses (13% vs. 34%) and MRI activity (4% vs. 41%) compared to women who were untreated or had no continuous exposure to high-efficacy DMT during pregnancy.

For relapses: Adjusted generalized estimating equation models, n = 113, OR 4.52, 95%CI [1.35 – 15.11], p=0.0142

For MRI activity: Firth logistic regression n = 91, OR 9.15, 95%CI [2.14 – 40.31], p=0.0013

sNfL Z Score in different DMT categories

sNfL Z Score during pregnancy and postpartum depending on DMT category at blood sample (red = untreated, green = platform, blue = orals, violet = monoclonal antibodies)

CONCLUSIONS

Continuous exposure to high-efficacy DMT during pregnancy was associated with a lower risk of disease activity compared to women who were untreated or had no continuous exposure to high-efficacy DMT during pregnancy. Further studies are needed to confirm these results and assess maternal and fetal longer-term outcomes.