

Pregnancy-related Relapses in a Large, Contemporary Multiple Sclerosis Cohort: No Increased Risk in the Postpartum Period

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Objective: To describe the risk of postpartum relapses and identify potentially modifiable risk factors in a contemporary multiple sclerosis (MS) cohort.

Background: A decreased risk of relapse during pregnancy but significant rebound disease activity in the early postpartum period was reported in women with MS recruited from referral centers over 20 years ago prior to availability of disease-modifying treatments (DMTs) or MRIs to diagnosis patients with a single attack.

Design/Methods: We identified 466 pregnancies among 375 women with MS from the complete electronic health record (EHR) at Kaiser Permanente Southern and Northern California between 2008-2016. We used prospectively collected information from EHR of mom and baby and interviewer-administered surveys to identify treatment history, breastfeeding and relapse and multivariable models to account for intraclass clustering and measures of disease severity.

Results: 38.0% were not on any treatment in the year prior to conception, 14.6% had clinically isolated syndrome and 8.4% relapsed during pregnancy. In the postpartum year, 26.4% relapsed, 87% breastfed, 35% breastfed exclusively and 41.2% resumed DMTs. Annualized relapse rates (ARR) declined from 0.39 pre-pregnancy to 0.14-0.07 ($p < 0.0001$) during pregnancy, but in the postpartum period we did not observe any rebound disease activity. ARR was slightly suppressed in the first 3-months postpartum (0.27, $p = 0.02$), returning to pre-pregnancy rates at 4-6 months (0.37). Exclusive breastfeeding reduced the risk of postpartum relapses (adjusted HR=0.58, $p = 0.01$) but resuming modestly effective DMTs had no effect (time-dependent covariate, $p = 0.86$).

Conclusions: Most women diagnosed with MS today can have children, breastfeed and resume modestly effective DMTs per their preferences without incurring an increased risk of relapses during the postpartum period. The lack of rebound disease activity in the early postpartum period is likely due to a combination of inclusion of women from a population-based setting, those diagnosed after a single relapse and high rates of exclusive breastfeeding.