



**INTRODUCTION:**

Multiple Sclerosis (MS) has a higher prevalence in women of childbearing age. According to the PRIMs trial results, the estimated mean relapse rate during the first trimester of pregnancy is 0.5±1.3; increasing to 1.2±2.0 during the first trimester post partum. Data published by Oliveri et al demonstrated that intravenous (IV) methylprednisolone (MP) reduces MRI activity over a 2-month period. A dose of 1gram of IVMP after delivery could decrease risk of postpartum relapses.

**OBJECTIVE:**

To compare the percentage of relapses postpartum in MS patients treated with 1 gram IVMP after delivery with patients who did not receive IVMP.

**METHODS:**

Retrospective Study. We included 50 RRMS and 2 SPMS patients with one or more documented pregnancies; each pregnancy was considered as a single case. Data recorded from medical records included: MS type, relapse number before, during and after pregnancy (first, second and third trimester postpartum), treatment history, breastfeeding duration, postpartum IV steroid use and EDSS before and after pregnancy. They were divided into 2 groups: IVMP (patients who received 1gram of IVMP after delivery) and No-IVMP (patients who did not receive IVMP after delivery).

**RESULTS:**

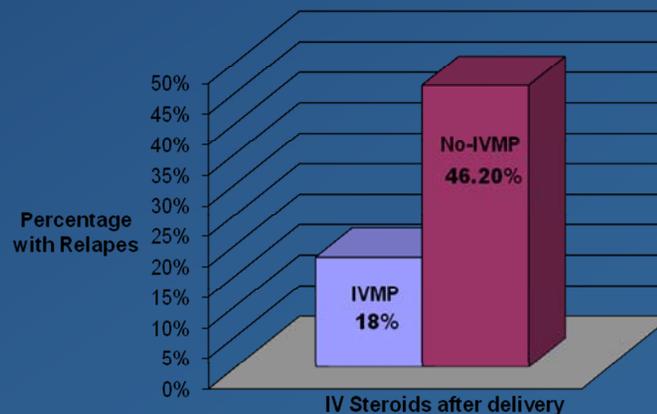
This is an ongoing study; currently 52 cases have been analyzed. 39 patients were in the IVMP group and 13 in the No-IVMP group. During the first postpartum trimester, we found relapses in 18% of the IVMP patients (Mean 0.18 SD 0.39) versus 46.2% of the No-IVMP patients (Mean 0.46 SD 0.52). (p=0.0448).

Table 1. Demographics

	IVMP group	No-IVMP group
Total cases	39	13
Mean age during pregnancy ±SD	30.4±3.5	30.7±2.8
RRMS	38	12
SPMS	1	1
<b>Percentage with relapses during postpartum period</b>		
First trimester (n)	18% (7)	46.2% (6)
Second and third trimester (n)	25.6% (10)	23% (3)
EDSS before pregnancy ± SD	1.08±1.5	0.2±0.5
EDSS after delivery ± SD	1.2±1.7	0.4±0.8
Percentage of relapses one year before pregnancy (n)	46.1% (18)	38.5% (5)

SD- standard deviation, n- number, IVMP- intravenous methylprednisolone, EDSS- expanded disability status scale

Figure 1. Percentage with relapses during first trimester postpartum in MS patients receiving IV prophylactic infusion compared to patients who did not (p=0.0448)



During second and third postpartum trimester 10 IVMP patients had a relapse (25.6%) (Mean 0.26 SD 0.44), while 3 No-IVMP patients had a relapse (23%) (Mean 0.23 SD 0.44) (p=0.8323). 7 patients had at least 1 relapse during pregnancy. EDSS score difference between the two groups was not statistically significant, either pre-pregnancy (p=0.154) or post partum (p=0.204). There was a moderate progression in each group. Regarding the percentage of relapses one year before pregnancy, there was not a statistical difference between the two groups (p=0.626).

**CONCLUSION:**

The prevalence of MS relapses increases during the first trimester postpartum. Previous trials have used intravenous immunoglobulin (IVIg) to decrease this risk, and some other trials, such as POPARTMUS, used progesterin and estradiol with the same goal.

In our study we found significant reduction in the percentage of patients having relapses during this period in those who received postpartum IV steroids compared to those who did not receive them. This reduction was not significant over the second and third postpartum trimesters. Our results support prior reports, and make us consider use of a second steroid infusion right after the third postpartum month.

Because it was a retrospective study, we had some limitations regarding number of patients, inclusion criteria and perhaps diagnostic criteria used for diagnosis. It would be suggested to perform a future prospective trial.

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