

TITLE: The impact of menopause on multiple sclerosis: a multicentre retrospective observational study

Author(s): D. Baroncini¹, G. Mallucci², S. Rossi³, V. Torri Clerici³, M.J. Messina⁴, V. Barcella⁵, C. Barrilà⁶, M. Ronzoni⁷, E.L. Susani⁸, M.L. Fusco⁹, L. Chiveri¹⁰, P.O. Annovazzi¹ on behalf of N-LoGiSM group

Institute(s): ¹Multiple Sclerosis Study Center, Gallarate Hospital, ASST della valle Olona, Gallarate, ²Inter-Department Multiple Sclerosis Research Centre, Neurological Institute IRCCS Mondino, Pavia, ³Department of Neuroimmunology and Neuromuscular Diseases, Neurological Institute C. Besta IRCCS Foundation, ⁴Neurology Department, IRCCS Policlinico San Donato, San Donato Milanese, Milano, ⁵Neuroimmunology Unit, ASST Papa Giovanni XXIII, Bergamo, ⁶Department of Neurology, Valduce Hospital, Como, ⁷Department of Neurology, ASST Rhodense, Garbagnate Hospital, Garbagnate Milanese, ⁸Neurology, Neuroscience Department, ASST Grande ospedale metropolitano Niguarda, Milano, ⁹Department of Neurology, Bicocca University, San Gerardo Hospital, Monza, ¹⁰Department of Neurology, ASST Ovest Milanese, Legnano Hospital, Legnano, ¹Multiple Sclerosis Study Center, Gallarate Hospital, ASST Valle Olona, Gallarate, Italy

Introduction: Few studies have addressed the effect of menopause (MP) on multiple sclerosis (MS): some have shown a worsening of subjective symptoms after MP^{1,2}, one found a higher disability accumulation after MP³.

Objective: to define the impact of natural MP on MS course.

Methods: we included consecutive women with MS and a natural MP onset after 2005. Exclusion criteria: MS onset <3 years pre-MP, primary progressive MS, date of MP uncertain, previous use of cyclophosphamide/mitoxantrone, hysterectomy/endometrial ablation, neoplasm/HIV, use of hormonal replacement therapy (HRT) <3 years pre-MP.

Main outcomes were comparisons of ARR and EDSS score variation pre Vs post-MP (Wilcoxon sign rank test). Sensitivity analyses (SAs) were performed excluding: patients with secondary progressive (SP) MS, artificial insemination (AI), second-line drugs (natalizumab/fingolimod) suspension, discontinuous therapy (i.e. therapy started after first observation or permanently suspended before last observation, washout between different drugs >6 months), only use of second-line drugs.

Multivariate analyses were done to determine if cigarette smoking, nulliparity and HRT post-MP could influence the disease course (adjusting for age at MP, MS duration, MS centre).

Results: we included 84 patients from 10 centres (age at MP: 50.2±3.2 years, MS duration: 14.6±7.8 years). SPMS patients were 4 (5%). Observation period was about 3.5 years pre/post-MP. Cigarette smokers were 27 (32%), nulliparous were 21 (25%), 4 received HRT post-MP, none underwent to AI. At MP median EDSS score was 2.0. The majority (93%) received DMTs during observation: 59 (73%) only first-line drugs (interferons, glatiramer acetate, dymethilfumarate, teriflunomide), 2 only second-line drugs, 15 (18%) first and second-line drugs. Therapy was discontinuous for 38 (45%) patients.

We observed a significant reduction in ARR after MP (0.13±0.23 Vs 0.23±0.28, p=0.009), confirmed in all SAs. Worsening of EDSS pre/post-MP was not significantly different in all patient analysis, but resulted significantly higher post-MP after exclusion of patients with discontinuous therapy (p=0.038). Multivariate analyses did not find any influence of cigarette smoking, nulliparity and HRT on disease course during MP.

Conclusion: ARR is significantly reduced after natural MP. On the other hand EDSS score could increase faster after natural MP, as previously shown³. These findings should be confirmed in studies with higher sample size.

References

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DISCLOSURES

Damiano Baroncini acted as an Advisory Board member of Sanofi-Genzyme, received funding for traveling and honoraria for speaking or writing from Novartis, Teva, Genzyme, Merck-Serono and Almirall. She received support for editorial project by Almirall.

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Valeria Barcella, Emanuela Susani, Maria Letizia Fusco and Luca Chiveri have nothing to disclose.