ANTICIPATION PHENOMENON IN MULTIPLE SCLEROSIS: EARLIER AGE OF SYMPTOM ONSET IN YOUNGER GENERATION OF FAMILIAL CASES

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Aim: The aim of this study was to assess the prevalence of familial MS (fMS) in Belgrade MS population, discern the differences between the persons with fMS and sporadic MS, and to detect the presence of anticipation phenomenon in fMS patients.

Methods: The data on the demographic and clinical characteristics of MS patients was obtained from the Belgrade MS population Registry. In cases of vertical transmission of MS, the family members were divided into the younger and older generation, in order to assess the potential presence of anticipation phenomenon. To adjust for follow-up time bias, a secondary analysis including only patients who had the onset of symptoms before 39 years (75. percentile), and those who were 39+ years, was performed.

Results: The prevalence of fMS in Belgrade MS population is 6.4%. FMS cases had earlier age at MS symptom onset (30.4 vs. 32.3 years) compared to sporadic MS cohort. When comparing fMS cases across generations, the younger generation had significantly lower age at onset compared with the older one (25.8 vs. 35.7 years, p<0.001). After adjustment for the different length of the follow-up, the difference in age at symptom onset between the groups was reduced, but it still existed and was statistically significant (30.0 years in younger vs. 36.4 years in older generation, p=0.040).

Conclusion: In our study, the analysis of fMS cases across generations, showed an earlier age of symptom onset in the younger generation, even after adjustment. These results indicate the possibility of existence of anticipation phenomenon.