ECTRIMS 2022
38th Congress of the European Committee for Treatment and Research in Multiple Sclerosis
27th Annual RIMS Conference
26 – 28 October 2022
Amsterdam, The Netherlands

P452

Analysis of long-term disability trajectories in patients with primary progressive multiple sclerosis

S. Camerlingo[1], B. Silva[2,3], O. Garcea[3], L. Lazaro[3], M. Casas[3], C. Pita[3], L. Cohen[3], J.I. Rojas[4], L. Patrucco[4], E. Cristiano[4], A. Pappolla[4], M. Alonso[4], P. Lopez[5], V. Tkachuk[6], J. Steinberg[7], A. Barboza[8], A. Martínez[9], C. Ysrraelit[10], J. Correale[10], M. Madorrán[10], A. Chertcoff[7], N. Deri[11], J. Miguez[2], C. Pestchanker[12], E. Silva[13], C. Vrech[14], G. Zanga[15], F. Leguizamón[16], E. Carnero Contentti[5], A. Carra[7], C. Mainella[17], N. Fernandez Liguori[18], R. Alonso[18,3]
[1]Sanatorio Anchorena, Neurology, Buenos Aires City, Argentina, [2]Hospital Italiano de Buenos Aires, Buenos Aires City, Argentina, [3]Multiple Sclerosis University Center CUEM, Ramos Mejia Hospital, Buenos Aires, Argentina, Neurology, Buenos Aires City, Argentina, [4]Centro de Esclerosis Múltiple Buenos Aires, Buenos Aires City, Argentina, [5]Hospital Alemán, Neurology, Buenos Aires City, Argentina, [6]Hospital de clinicas Jose de San Martin, CABA, Buenos Aires City, Argentina, [7]Hospital Británico de Buenos Aires, Neurology, Buenos Aires City, Argentina, [8]Hospital Central de Mendoza, Mendoza, Argentina, [9]Hospital Posadas, Buenos Aires, Argentina, [10]FLENI, Neurology, Buenos Aires City, Argentina, [11]Centro de Investigaciones Diabaid, Buenos Aires City, Argentina, [12]Hospital Central San Luis, San Luis, Argentina, [13]Predigma Centro de Medicina Preventiva, Posadas, Misiones, Posadas, Argentina, [14]Sanatorio Allende Cordoba, Cordoba, Argentina, [15]UA Cesar Milstein, CABA, Buenos Aires, Argentina, [16]Hospital Alvarez, Buenos Aires City, Argentina, [17]Hospital Español de Rosario, Rosario, Argentina, [18]Sanatorio Guemes, Neurology, Buenos Aires City, Argentina

Background: Several primary progressive multiple sclerosis (PPMS) natural history studies have emonstrated a large degree of heterogeneity in time from disease onset to high levels of disability.
Objective: We aimed to investigate the heterogeneity of long-term disability accumulation in a cohort of PPMS patients and to determine if there are differences between the trajectories of PPMS adjusting for sex.
Methods: All PPMS patients enrolled in RelevarEM registry who had ≥ 2 Expanded Disability Status Scale (EDSS) score, were included in the analysis. A linear mixed model was used to model longitudinal EDSS scores. The best model (lower values better fit) was selected according to both Akaike Information Criterion and Bayesian Information Criterion fit indices and also to parsimony and clinical interpretability of the data. The same indices were used to determine which time function (linear, quadratic, square root, logarithm) best fit the EDSS trajectories over time. Fractional polynomials were used to obtain the best longitudinal fit of the dependent variable (EDSS). The root mean square errors were also calculated.
Results: A total of 125 patients with longitudinal data were included (median observations/patients was 3 (2-5). Mean age at onset of PPMS was 41 years (± 11), and mean PPMS duration was 11 years ± 5.9. The male/female ratio was 1.4. Baseline EDSS was 2.97 (±1.16) in women and 3.11 (±1.20) in men, ($p = 0.50$); last EDSS was 5.66 (±1.56) in women and 6.06 (±1.56) in men ($p = 0.155$). The mean follow-up time was 10 years (±5.11) in women and 12.8 (±6.49) in men ($p < 0.001$). We found high heterogeneity between individuals (intraclass coefficient 43%), suggesting the usual clinical and radiologic variables are not enough to explain the variability in disability accumulation trajectories. We did not observe differences in disability trajectories stratified by sex, adjusted for potential confounders.
Conclusion: A high heterogeneity was found in the trajectory between individuals regarding disability accumulation. We have not found differences stratified by sex. As previously reported, there is a high variability between individuals that cannot be explained by the prognostic markers that we currently have.
Disclosure: Authors (Sebastián Camerlingo, Berenice Silva, Orlando Garcea, Cecilia Pita, Leila Cohen, Juan Ignacio Rojas, Marina Alonso, Luciana Lázaro, Magdalena Casas, Pablo A. López, Verónica Tkachuk, Judith Steinberg, Andrés Barboza, Alejandra Martínez, Célica Ysrraelit, Jorge Correale, Mariano Marrodan, Aníbal Chertcoff, Norma Deri, Jimena Miguez, Liliana Patrucco, Edgardo Cristiano, Claudia Pestchanker, Emanuel Silva, Carlos Vrech, Gisela Zanga, Felisa Leguizamón, Edgar Carnero Contentti, Adriana Carra, Carolina Mainella, Ricardo Alonso): nothing to disclose regarding to this research.