SHORT TELOMERES IN SUBJECTS WITH REMITTED BIPOLAR DISORDER

Parisi, M.M.¹; Fries, G.R.²; Panizzutti, B.S.²; Grun, L.K.¹; Guma, F.C.R.¹; Kapczinsky, F.²; Gama C.S.²; Rosa, A.R²,³; Barbé-Tuana, F.M.¹

¹Laboratory of Molecular Biology and Bioinformatics, Department of Biochemistry, ICBS/UFRGS, 90035-003 Porto Alegre (RS), Brazil; ²Laboratory of Molecular Psychiatry, INCT for Translational Medicine-CNPq, Hospital de Clínicas de Porto Alegre, Universidade Federal do Rio Grande do Sul; ³Department of Pharmacology, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil.

Introduction and Objective: Bipolar disorder (BD) has been associated with high rates of age-related diseases, such as type II diabetes, metabolic syndrome, dementia, and cardiovascular illnesses. Several explanations for this accelerated aging in BD have been proposed, including increased oxidative stress, inflammation, and telomere shortening. In this study, we aimed to investigate mean telomere length in patients with BD in remission and in healthy controls, and checked for the influence of the course of bipolar illness in this parameter. Materials and Methods: Twenty-four outpatients with BD in remission and 24 healthy controls were recruited and gave informed written consent. Genomic DNA was extracted from peripheral blood and mean telomere length was measured by real time quantitative polymerase chain reaction. Results: Telomere length was significantly shorter in patients when compared to controls (mean = 0.67 95% CI (0.6 – 1.14) versus mean = 1.37 95% CI (1.20 – 1.72), p < 0.002), and remained so after adjustment for age and body mass index as covariates in a linear regression analysis (p = 0.034). No significant association was found between telomere length and chronic course of the illness (e.g., age at onset, number of episodes and hospitalizations). Conclusion: Altogether, this study confirmed previous evidence of telomere shortening in BD, and suggests this as a key mechanism in the accelerated aging seen in patients.

Key-words: Bipolar Disorder, Telomere Shortening, Age-related disease.

Acknowledgements: CNPq, CAPES