DAMPs as Biological Predictors of Clinical Remission in Bipolar Disorder

Stertz, L.1,2; Kapczinski, P.1; Gottfried, G.2

1Bipolar Disorder Program & INCT Translational Medicine, Hospital de Clínicas, UFRGS, Porto Alegre (Brazil), 2Department of Biochemistry, UFRGS, Porto Alegre (Brazil).

INTRODUCTION. When a cell died, is stressed or damaged it releases endogenous danger signals or ligands that triggers several stress receptors, ultimately leading to the activation of an innate immune response. Currently, there is a lack of studies during acute episode in bipolar disorder (BD) patients associating cell death with the release of damage associated molecular pattern (DAMPs) and the induction of inflammatory response. METHODS We evaluated serum levels of DAMPs and inflammatory cytokines in 20 BD drug free patients during acute episodes and 20 healthy subjects. We also evaluate how these parameters behave after remission of symptoms. RESULTS AND DISCUSSION For the first time we demonstrated that several DAMPs (nuclear DNA (p=0.01), mitochondrial DNA (p=0.02), Hsp90α (p=0.02), uric acid (p=0.01)) were biological markers of clinical remission in this patients. We also found that TNF-α (p=0.02) and PGE2 (p=0.03) can be involve in the remission of symptoms. The presence of extracellular DNA and others DAMPs in patients with BD suggests that cell death may be one source which triggers the systemic toxicity, and may potentially explain some aspects of immune imbalance reported in BD. CONCLUSION: important biological mechanisms may be involved in improving symptoms of patients after treatment and further studies are necessary to access how the treatment is barring cell death and preventing the rest of the associated symptoms.

Keyword: damage-associated molecular pattern (DAMPs), bipolar disorder, Remission

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