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**Inflammatory markers in psychosis, from prodrome to chronicity: Evidence for immune activation in both first episode psychosis and prodromal stage and differentiation between the immune profiles of the early stages in psychosis****Evangelos Karanikas**

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The aim of this presentation is to report on our laboratory's work regarding neuro-endocrine, neurotrophin and immune parameters especially focusing on early psychosis. Thus, four study groups were involved, the Ultra High Risk for Psychosis (UHR), First Episode Psychosis (FEP), Healthy Controls (HC) and Chronic Schizophrenia patients (CHRON). We measured serum cytokines, Interleukin (IL)-1a, IL-2, IL-4, IL-5, IL-6, IL-8, IL-10, IL-12p70, IL-17A, Tumor Necrosis Factor- $\alpha$  (TNF- $\alpha$ ) and Interferon- $\gamma$  (IFN- $\gamma$ ), as well as the neurotrophin Insulin Growth Factor (IGF)-1. We also measured serum cortisol levels at 3 time points and performed the Dexamethasone Suppression Test (DST) and psychometric evaluations. Our first study involved the direct comparison between FEP and UHR groups. The results showed higher levels of both pro-inflammatory (TNF- $\alpha$ , IL-2, IL-12 and IFN- $\gamma$ ) and anti-inflammatory (IL-10) cytokines in the FEP group without significant alteration regarding the HPA axis function. Subsequently, in a 2<sup>nd</sup> study, we implicated an additional third group (HC). The results suggest that the FEP group presented increased both pro-inflammatory cytokines (TNF- $\alpha$ , IFN- $\gamma$ , TNF- $\beta$ ) the anti-inflammatory cytokine (IL-4) compared with HC. The UHR showed increased IL-4 against only the HC. Finally, in a third study we additionally recruited a CHRON group. UHR group presented increased IL-4 levels compared with the rest groups. The findings favor a hypothesis of an increased mobilization of both the pro-and anti-inflammatory cytokine networks, in full blown psychosis compared with both normality and the pre-psychotic stage. IL-4 appears to play a significant role at prodrome. Cytokines rather than endocrine and neurotrophin markers represent a promising field in early psychosis.

**Biography**

Evangelos Karanikas, is a Military Psychiatrist servicing in 424 General Military Hospital of Thessaloniki, Greece. He is the Head of the Research and Education Department of the Psychiatric Clinic and also the Scientific Associate of 2<sup>nd</sup> University Psychiatric Department, Aristotle University, Thessaloniki, Greece. He was a Research Fellow of Melbourne Neuropsychiatry Center, Australia and a Lecturer in Rural Medical School, Toowoomba, University of Queensland, Australia. His research interests focus on neuro-endocrine and immunological mechanisms in psychosis.

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