

P1786

Paper Poster Session

Clinical epidemiology and host response

Elevated beta-defensin levels in patients with an infection and their association with IL-6 production

Dionysia Marinou^{*1}, Vasiliki Pitiriga², Maria Mavrouli³, Athanassios Tsakris⁴, John Routsias³

¹*Faculty of Medicine National and Kapodistrian University of Athens, Athens, Greece*

²*Metropolitan Hospital, N. Faliro, Greece*

³*Medical School of Athens, Athens, Greece*

⁴*Medical School, University of Athens, Microbiology Department, Department of Microbiology, Athens, Greece*

Background: The inflammatory process is characterized by the production of a variety of molecules such as IL-6, C-reactive protein (CRP) and the antimicrobial peptides defensins. Interleukin-6 (IL-6) is a central mediator of the acute-phase response and a primary determinant of hepatic production of CRP. Defensins are endogenous antibiotics with microbicidal activity against Gram-negative and Gram-positive bacteria, fungi, enveloped viruses and protozoa. They are secreted by epithelial tissue in response to inflammation. Our aim was to examine the potential of β -defensins to serve as novel markers of inflammation.

Material/methods: IL-6, β -defensin 1 (BD-1), β -defensin 2 (BD-2) and CRP levels quantified in serum of patients (255 patients for IL-6, BD-1, BD-2 and 226 patients for CRP), with inflammation of infectious, non-infectious etiology (including cancer and arthritis) and 30 healthy individuals, using a commercial ELISA kit.

Results: Statistical analysis demonstrated that there is a very strong positive correlation between the levels of IL-6 and the levels of BD-2 ($p < 0,001$ and $r = 0,8121$). In addition, there is a significant correlation between the levels of IL-6 and the levels of BD-1 ($p < 0,001$ and $r = 0,3018$), the levels of BD-1 and the levels of BD-2 ($p < 0,001$ and $r = 0,351$) and the levels of BD-2 and the levels of CRP ($p < 0,001$ and $r = 0,2648$).

Conclusions: Our results demonstrate that there is a remarkable correlation between the levels of IL-6 and the levels of BD-2 and therefore BD-2 can be used as markers of inflammation.