Open Access
www.openaccessjournals.com

American of Physiology, Biochemistry and Pharmacology

# Analysis of cytokines in cell subsets of patients with multiple myeloma

**Vladimir Jurisic**

University of Kragujevac, Serbia

**Abstarct**

Multiple myeloma (MM) is a B cell bone marrow neoplasia characterized by inflammation with an intense secretion of growth factors and cytokines that promote tumor growth, cell survival, migration and invasion. For better understading immune system function serum TNF values are estimated and compared with cytokines produced from in-vitro cultured peripheral blood cells by ELISA assay. The cytokine production was also analyzed from 1.0 x 106 isolated CD38+ and CD38 – cells from bone marrow of myeloma patients using MACS magnetic sorter and Column-based MACS® Technology (Miltenyi Biotec, Germany) and after cell cultures in-vitro, in Roswell Park Memorial Institute (RPMI) 1640 culture medium (CM,Gibco, UK) supplemented with 10% fetal calf serum (FCS) (Sigma, USA) following 24h according manufacturer instructions. Using PCR mRNA analyses cytokines are also measured in isolated CD38+ and CD38 – cells, after cell lyses. Results indicated that the total values of TNF-α measured in serum of patients with myeloma was significantly increase and depending on advance stage of disease, inflammation, presence of osteolyses and other clinical parameters ($p < 0.05$ Mann Whitney U-test). However, values of TNF-α, IL-2 and IFN-γ measured from cultured PBL and NK cells was significantly decrease in myeloma patients in comparison to healthy controls ($p < 0.05$ Mann- Whitney U-test), indicated cell dysfunction. In addition when amount of TNF-α and IL-6 was measured in separated CD38+ and CD38 – cells by molecular methods and using RT PCR analyses, no significant difference was obtained between CD38 + and CD38- cells ($p > 0.05$ Mann Whitney U-test). The results are expressed as fold increase from normal range reference and showed that increase cytokine values exist in both cells subpopulations. Considering that, by separation, we determined values for individual cell populations, it can be concluded that the total value of serum cytokines in advanced stage of disease that we obtained comes from both populations and not only from tumor cells. Other cell subsets involved surround tumor cell as well as other circulated cells of the immune system that are all designated as CD38- cells.

**Biography**

Vladimir Jurisic studied Medicine at the University of Belgrade, School of Medicine, Serbia, and was obtained PhD at the same University of Belgrade. He obtained short term fellowship for cancer investigation at Charité University Berlin, Germany, and finished several training courses at National and Kapodistrian University of Athens, Greece, and European School of Oncology, Milano, Italy. He has over 180 article in peer reviewed international journals, national journals, and several chapters in international and national books that have been cited over 2030 times and his H-index is 27. He presented many lectures at International conference and he receives several grants including ESMO, EACR, Interferone and Citokine Societies, UNESCO.

**Publications**

Accidental Use of Milk With an Increased Concentration of Aflatoxins Causes Significant DNA Damage in Hospital Workers Exposed to Ionizing Radiation

EGFR Polymorphism and Survival of NSCLC Patients Treated with TKIs: ASystematic Review and Meta-Analysis

The Role of NK Cells in Cancer

Effect of cytokines on NK cell activity and activating receptor expression in high-risk cutaneous melanoma patients

International Conference and Expo on Proteomics, Genomics and Molecular Medicine Heart conference | Zurich, Switzerland | March 09-10,2020

**Citation:** Vladimir Jurisic, Analysis of cytokines in cell subsets of patients with multiple myeloma, International Conference and Expo on Proteomics, Genomics and Molecular Medicine Heart conference, Zurich, Switzerland, March 09-10,2020