



REPUBLIC OF SERBIA
GOVERNMENT



Republic of Serbia
MINISTRY OF HEALTH

UNIVERSITY CLINICAL CENTRE OF SERBIA

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Abstract Book

The First World Conference
Fighting COVID-19 Pandemic
Health Challenges

**COLLECTIVE KNOWLEDGE.
GLOBAL HEALTH.**

26-28 March 2022, Belgrade, Serbia



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COLLECTIVE KNOWLEDGE. GLOBAL HEALTH.

26-28 MARCH 2022, BELGRADE, SERBIA



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Committee**

**Scientific
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**Honorary
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Welcome to Serbia Welcome to Belgrade





2

COVID-19 diagnosis, immunization and prevention

Invited speakers

Oral presentations

E poster

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Gender Difference in SARS-CoV-2 Stimulation of Hyperinflammatory Response in Patients with COVID-19

Olivera Mitrović-Ajtić¹, Tijana Subotički¹, Sanja Miljatović²,
Bojana Beleslin-Čokić³, Vladan Čokić¹

Background: Although women and men have the same prevalence, men with COVID-19 are more at risk for worse outcomes and death, independent of age.

Methods: To observe the hyperinflammatory response regarding sex, we will measure the levels of inflammatory cytokines: interleukin-6 (IL-6), IL-1 β , tumor necrosis factor-alpha (TNF- α), monocyte chemoattractant protein-1 (MCP-1), IL-10, interferon-gamma (IFN- γ), IL-8, transforming growth factor-beta 1 (TGF- β 1), analyzed by ELISA, in plasma of 130 COVID-19 patients at diagnosis and correlate them with clinical parameters. Besides, we checked the quality of life of patients up to 3 months after hospitalization.

Results: Pro-inflammatory IL-6 was significantly ($p < 0.01$) increased in male COVID-19 patients compared to healthy male volunteers (4.7-fold) and female COVID-19 patients (1.75-fold). IL-6 was positively correlated to INR, aPTT ($p < 0.001$), and ferritin ($p < 0.05$), while INR with CRP ($p < 0.05$). IL-8 was significantly increased in female COVID-19 patients compared to healthy female volunteers ($p < 0.01$, 2.5-fold) and male COVID-19 patients ($p < 0.05$). TNF- α was significantly ($p < 0.05$) increased in male COVID-19 patients compared to healthy male volunteers. MCP-1 and IFN- γ were significantly increased in female COVID-19 patients compared to healthy female volunteers ($p < 0.01$). Anti-inflammatory TGF- β 1 was decreased in COVID-19 patients regardless of gender. Most patients were men (75%) with chronic disorders (59%, mostly hypertension). COVID-19 reduced their social (32%) and physical activities (34%) after 6 weeks of diagnosis, but further on reduced in additional 3 months (social 55%) with depression (22%).

Conclusions: Inflammatory response is generally increased in COVID-19 patients with specific cytokines in accordance with gender.

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1

Challenges facing the health systems during the pandemic

2

COVID-19 diagnostics, immunization and prevention

3

State-of the art approach to COVID-19 treatment with emphasis on multidisciplinary team work