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balance (increase the concentration of restored glutathione and decrease its oxidized form; and increase the activity of enzymes of thiol-disulfide system – GPR and GR, improvement the level of mitochondrial metabolism and activity of the mitochondrial mt-SOD and inhibition the opening of mitochondrial permeability transition pore and conservation of the charge of mitochondria. Also, there has been the expression of HSP 70 in samples with SERM.

Conclusion: neuroprotective action of SERM is due to its direct antioxidant effect and expression of HSP 70 in the activation of SERM estrogen receptors. SERM indirectly through HSP 70 stabilizes oxidative damaged of macromolecules, prevents the opening of mitochondrial permeability transition pore, thereby showing the direct antiapoptotic action.

INFLAMMATORY BIOMARKERS ASSOCIATED WITH DEVELOPING INTO CRITICAL COVID-19: A META-ANALYSIS

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Background: Coronavirus disease 2019 (COVID-19) is an escalating global epidemic caused by SARS-CoV-2, with a high mortality in critical patients. The high mortality rate of COVID-19 patients is mainly caused by the progression from the mild condition to the critical illness. Therefore, it is an urgent need for effective indicators to predict disease severity, early and rapid diagnosis, monitoring, risk assessment in SARS-CoV-2 infected patients.

The purpose of this investigation was to conduct meta-analysis in an attempt to systematically collect and evaluate the associations of comorbidity factors with the severity and prognosis of COVID-19.

Materials and methods: Based on systematic search in PubMed, Google Scholar up to January 28, 2021, a total of 5 eligible articles with 3129 laboratory-confirmed COVID-19 cohorts were included. Pairwise comparisons between severe and critical patients who were transferred to the intensive care unit (ICU) were performed for 6 laboratory parameters. The severe patients should have, at least one of the following conditions should be additionally met: 1) respiratory distress, RR ≥ 30 times/minute, 2) oxygen saturation $\leq 93\%$ under the resting state, 3) oxygen partial pressure (PaO₂)/oxygen concentration (FiO₂) in arterial blood ≤ 300 mmHg. We describe the epidemiological, clinical and laboratory prognosis of patients with confirmed infection of SARS-CoV-2 who were hospitalized in ICU.

Results: It was shown that most patients have multiple symptoms. Cough, fatigue, myalgia, sore throat are also common symptoms in patients infected with SARSCoV-2. Patients who were admitted to the intensive care unit was associated with significantly higher levels of WBCs (OR=0.6; 95%CI [0.513, 0.687]), C-reactive protein (OR=1.41; 95%CI [1.322, 1.508]), procalcitonin (PCT) (OR=1.21; 95%CI [1.119, 1.305]), IL-6 (OR=1.46; 95%CI [1.373, 1.555]), but lower levels of platelets (OR= - 0.27; 95%CI [-0.354, - 0.185) and lymphocytes (OR= - 0.83; 95%CI [-1.19, -0.363]).

Conclusion: COVID-19, a novel coronavirus has been responsible for millions of cases of deaths worldwide. Infected patients progress to critical severe state which required high-flow oxygen support, compromising the availability of health resources. Critical group experienced more multiorgan damage which was partially induced by direct attack of SARS-CoV-2. Among these patients, the most often detected high level of pro-inflammatory markers (PCT, WBS, CRP)/ Thus, early finding and laboratory markers diagnostics have a certain extent of positive effect on the prognosis and judge the severity of the illness in a timely manner.