**Post-COVID-19 in 70 children from Sarajevo-cardiovascular and immunological aspect**

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**Background and Aim**: An unprecedented global impact on public health and health care delivery exerts the Coronavirus disease 2019 /COVID-19/. The aim of this study was to evaluate the knowledge on SARS-CoV-2, epidemiology, clinical presentation including cardiovascular and immunological status in postCovid children.

**Methods:** A group of 70 children /previously healthy or with no pre-existing heart disease/ from Sarajevo with positive postcovid history, formed this study. Patients were evaluated at the Polyclinic Eurofarm in Sarajevo, from October 2020 till April 2021. Following history and epidemiological data, a detailed cardiovas­cular examination has been performed including oxygen sat­uration, pulse, blood pressure, electrocardiogram /ECG/, values of polymerase chain reaction (PCR), serological tests for corona, laboratory blood tests and echocardiography.

**Results:** The group consisted of 70 children /40 boys/: infants: 10, 1-5 years: 20; 6-10:12; 11-15:21; 16-18 years: 7; forming five groups. Symptoms differ depending on age group, younger children had no or mild symptoms in comparison to the older group of children. The values of immunoglobulin G were significantly higher in the older group of children with (p <0.05; p=0.043) indicating that the immune system with age is more responsive to the virus. PCR test was negative in 9/70 children. The majority of children /64.3 %/ were asymptomatic. Two boys aged 14 years, had palpitation on exertion, shortness of breath, ECG changes, lower oxygen saturation /91% and 94%/, elevated creatinine phosphokinase miofibrilae /CPKMB/: 38 and 45, in one patient the diameter of left coronary artery /LCA/ was enlarged up do 3.8mm, no aneurysm, no skin changes, with normal ejection fraction of left ventricle. They were on short period /10-15days/ of treatment with nonsteroids including low doses of Aspirin, vitamins /C and D/, rest and no sport activities. After treatment and a regime of no activities, they were fully recovered, free of symptoms, with normal oxygen saturation, normal values of CPKMB, diameter of LCA was within a normal range according to age and body weight of the patient.

**Conclusions:** In children with atypical symptomatology and positive or suspi­cious epidemiological survey, practitioners should con­sider the possibility of COVID-19, paying special attention to possible cardiovascular and immunological events.

*Key words: Post-COVID-19, children, cardiovascular and immunological events*

**“Post-COVID-19 kod 70 djece iz Sarajeva-kardiovaskularni i imunološki aspekt”**

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**Uvod i cilj:** Korona virusna bolest 2019 /COVID-19/ ima bez presedana, globalni utjecaj na javno zdravlje i pružanje zdravstvene zaštite. Cilj ove studije je evluacija znanja o SARS-CoV-2, epidemiologiji, kliničkoj prezentaciji, uključujući kardiovaskularni i imunološki status kod Postcovid djece.  
**Metode:** Grupa od 70 djece /prethodno zdrave ili bez srčane bolesti/ iz Sarajeva s pozitivnom postcovid anamnezom, formirala je ovu studiju. Pacijenti su pregledani u Poliklinici Eurofarm u Sarajevu od oktobra 2020. do aprila 2021. Nakon anamneze i epidemioloških podataka učinjen je detaljan kardiovaskularni pregled, uključujući zasićenost kiseonikom, puls, krvni pritisak, elektrokardiogram /EKG/, vrijednosti lančana reakcije polimeraze (PCR), serološke testove na koronu, laboratorijske pretrage krvi i ehokardiografiju.

**Rezultati:** Skupinu je činilo 70 djece /40 dječaka/: dojenčadi: 10, 1-5 godina: 20; 6-10:12; 11-15:21; 16-18 godina: 7; formirajući pet grupa. Simptomi se razlikuju ovisno o dobnoj skupini, mlađa djeca nisu imala simptome ili su bili blagi u odnosu na stariju skupinu djece. Vrijednosti imunoglobulina G bile su signifikantno više u starijoj grupi djece (p <0.05; p=0.043) što indicira da je imuni sistem sa uzrastom otporniji na virus. PCR test je bio negativan kod 9/70 djece. Većina djece /64.3 %/ nije imala simptome. Dva dječaka uzrasta 14 godina, imala su palpitacije na napor, kratkoću daha, promjene na EKG, nižu saturaciju kiseonikom /91% i 94%/, povišene vrijednosti kreatin fosfokinaze miofibrile /CPKMB/: 38 i 45, kod jednog pacijenta dijametar lijeve koronarne arterije /LCA/ je bio uvećan do 3.8mm, bez aneurizmi, bez kožnih promjena, sa urednom ejekcionom frakcijom lijevog ventrikula. Pacijenti su bili na kratkom periodu /10-15 dana/ tretmana sa nesteroidima, uključujući niske doze Aspirina, vitamina /C i D/, odmorom i bez sportskih aktivnosti. Nakon tretmana i režima bez aktivnosti, potpuno su se oporavili, bez simptoma, sa normalnom saturacijom kiseonika, normalnim vrijednostima CPKMB, dijametar LCA je bio unutar normalnog dijapazona u odnosu na dob i tjelesnu težinu pacijenta,

**Zaključak:** Kod djece s atipičnom simptomatologijom i pozitivnim ili suspektnom epidemiološkom anamnezom, liječnici bi trebali razmotriti mogućnost COVID-19, obraćajući posebnu pažnju na moguće kardiovaskularne i imunološke događaje.

***Ključne riječi****: Post-COVID-19, djeca, kardiovaskularni i imunološki događaji*