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**CLINICAL AND LABORATORY CHARACTERISTICS OF PAEDIATRIC  
INFLAMMATORY MULTISYSTEM SYNDROME (PIMS)**

**AND ITS COMPLICATIONS IN CHILDREN**

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**Background.** The rapid worldwide spread of the COVID-19 virus remains one of the most pressing medical problems at this stage. SARS-CoV2 is currently considered one of the most important causes of morbidity, hospitalization and serious multi-organ complications in many countries. A particularly serious complication of SARS-CoV2 infection among paediatric patients is the occurrence of PIMS (Paediatric Inflammatory Multisystem Syndrome).

**Aim of the study:** assessment of the most common complications of COVID-19 in children due to PIMS. Establishing a correlation between the concentration of inflammation parameters (CRP, IL-6, D-Dimer, fibrinogen concentration) and the frequency and severity of complications.

**Materials and methods.** Retrospective analysis of medical records of 18 patients hospitalized in the Department of Pediatric Infectious Diseases of Medical University of Białystok between 09.2021 and 03.2021 with a diagnosis of PIMS. Data processing was performed using mathematical statistics methods using GraphPad Prism 8.0.

**Results and discussion.** The gender structure of the patients included 6 girls and 11 boys. Most common symptoms presented by the patients on admission were: fever, muscle soreness, skin rash, apathy and weakness. The mean concentration of CRP on admission was 139 mg/L, and the mean concentration of IL-6 was 236 pg/mL (ref. range <12.5pg/mL). 94% of patients presented significant deviations in blood coagulation parameters, of which the most pronounced were: D-dimers mean concentration 4879 µg/L (ref. range <500µg/L), fibrinogen mean concentration 539 mg/dL (ref. range 200-360 mg/dL). In most cases, patients were treated with intravenous immunoglobulin - IVIG (2mg/kg) and low dose glucocorticosteroid (dexamethasone) with good therapeutic effects. Serious complications requiring transfer to the intensive care unit occurred in 1 of the patients. 30% of patients required prolonged ambulatory follow-up due to abnormalities revealed by echocardiography examination during hospitalisation.

**Conclusions.** In the context of the persistently high number of COVID-19 cases, PIMS should be considered in the differential diagnosis of inflammatory diseases in children, especially Kawasaki disease. PIMS can be a very possible cause of organ complications, especially cardiac complications. The retrospective data indicates the good effectiveness of the undertaken therapeutic measures.