Streszczenie w języku angielskim

The collateral damage caused by the COVID-19 pandemic affected cardiovascular disease patients. Additionally, lockdown caused treatment-related concerns and reluctance to seek medical help, factors that can delay treatment.

We aimed to analyse the incidence and course of ACS after the first COVID-19 pandemic wave, as well as the profile and treatment of chronic coronary syndrome (CCS) patients following the first COVID-19 wave. The report is based on a multi-institutional registry of 10 interventional cardiology departments. Both ACS and CCS patient data were gathered from June to October 2020, i.e. in the period following the first lockdown in Poland (March 30–May 31, 2020) and compared with the corresponding 2019 timeframe.

In total, 2801 patients hospitalized for ACS in 2019 and 2620 in 2020 (June–October) represented 52.8% and 57.9% of coronary artery disease admissions, respectively. Those admissions were analysed in detail in *Publication no. 1*. In 2020 vs. 2019, more cases of arterial hypertension (80.2% vs. 71.5%; P <0.001), diabetes (32.7% vs. 28.2%; p <0.001) hyperlipidaemia (53.2% vs. 49.8%; P = 0.01), and smoking history (29.5% vs. 25.8%; p = 0.003) were detected. Median troponin and cholesterol values, as well as glycemia, were higher in 2020 when compared to 2019. Patients were more likely to undergo percutaneous treatment (91.2% vs. 87.5%; p <0.001) and were less often referred for surgery (3.7% vs. 4.9%; p = 0.03). No differences in deaths from repeat myocardial infarction, stroke, and/or composite endpoint (major adverse cardiac and cerebrovascular events [MACCE]) were noted. However, incidence of ACS in 2020 (June–October) was an indpedent risk factor for mortality based on multivariable analysis. As such, the first publication concludes that the COVID-19 pandemic affected ACS patient profile, course of treatment, and increased risk for mortality.

In *Publication no. 2*, details regarding chronic coronary syndrome patient profile, hospitalization and outcomes were analysed. The number of hospitalized CCS patients following lockdown was lower by 5.1%. They were younger (68.0 vs. 69.0; $p < 0.019$), more likely to present with hypertension (88.5% vs. 77.5%; $p < 0.0001$), diabetes (35.7% vs. 31.5%; $p = 0.003$), hyperlipidaemia (67.9% vs. 55.4%; $p < 0.0001$), obesity (35.8% vs. 31.3%; $p = 0.002$), and more pronounced symptoms (Canadian Cardiovascular Society [CCS] III and CCS class IV angina: 30.4% vs. 26.5%; $p = 0.005$). They underwent percutaneous treatment more often (35.0% vs. 25.9%; $p < 0.0001$) and were less likely to be referred for surgery (3.7% vs. 4.9%; $p = 0.0001$). There were no significant differences in hospitalization outcome. New York Heart Association (NYHA) class IV for heart failure was a risk factor for both mortality and MACCE in multivariate analysis. As a conclusion, it was underlined that the SARS-CoV-2 pandemic affected the characteristics and hospitalization course of stable angina patients hospitalized following the first wave. The hospitalization outcome was similar in the analysed time intervals. The higher prevalence of comorbidities raises concern regarding upcoming years.

In *Publication no. 3* multiple reports were evaluated to analyse mortality and morbidity in patients who suffered from ACS during the COVID-19 pandemic, as well as to investigate the factors that may have a significant impact on their baseline characteristics and outcome. Most of them point to reluctance and longer time to reach medical care, longer pre-hospital delay, lower overall number of ACS admissions, greater percentage of STEMI patients and complications. In most reports, younger and less ill patients were more likely to suffer from ACS than in the pre-pandemic period. They presented with more prominent biomarker elevation. Further, most investigators underline that the number of invasive procedures dropped significantly ,which was most prominent in the field of surgical revascularization. Consequently, a higher number of

adverse events and greater mortality during the COVID-19 pandemic were noted in majority of referenced studies, which was valid for both patients with and without coronavirus infection. In summary, the pandemic had a great impact on overall populational mortality and morbidity, which was greatly pronounced in patients with cardiovascular disease, particularly in ACS cases. They differed in baseline characteristics, underwent different treatment and their outcome was worse as compared with the period prior to the pandemic.