

Hospitalizations for sarcoidosis in Poland: impact of the COVID-19 pandemic

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Sarcoidosis is a systemic disease of unknown etiology, causing granulomas formation in multiple organs, most commonly the lungs.¹ Although usually self-remitting, the disease can lead to serious lung function impairment, multiple organ involvement, and sometimes death.²

In this issue of *Polish Archives of Internal Medicine*, Bogdan et al³ report on trends in hospitalizations for sarcoidosis in Poland in the years 2016 to 2021. The report is based on national registry data (National Institute of Public Health NIH – National Research Institute) and comprises all patients hospitalized for sarcoidosis for the first time (>15 000 individuals). This group of authors have previously published a similar report, based on data from the years 2008 to 2015.⁴ The current publication brings us 2 interesting pieces of information.

Firstly, thanks to the use of the same methods in the 2 subsequent publications (separated by a few years), we have an opportunity to take a look into time trends. Taken together, these studies cover the timespan from 2008 to 2021, and more than 38 000 patients. The average annual incidence rate of sarcoidosis in the current study was similar to the one reported previously (6.8 cases per 100 000 vs 7.5 per 100 000, respectively), and so was the distribution of sarcoidosis forms.

Secondly, but perhaps more importantly, the commented publication provides us with data from the COVID-19 pandemic. The outbreak of the pandemic had a profound impact on the health care system. Its direct effects on morbidity and mortality were easily observed. However, it also had significant indirect effects on the care for patients diagnosed with and treated for various diseases. Currently, we begin to see studies that provide some information on this impact. Bogdan et al³ report that in the initial phase of the pandemic (2020) the number of hospitalizations for sarcoidosis declined; it increased

in the following year (2021), but did not reach the prepandemic numbers. The drop in the hospitalization rate is an expected observation, and is obviously in accordance with published reports.^{5,6} Its consequences were most probably negative, but are not easy to study. The obvious strategy would be to check the mortality statistics, looking for death cases coded with *International Classification of Diseases, 10th Revision* (ICD-10) codes specific for sarcoidosis. However, a lack of proper in-hospital diagnostics could also lead to misdiagnosis of diseases whose clinical picture may resemble sarcoidosis (eg, lymphoma), with dire consequences. The authors also report a significantly higher in-hospital death rate during the COVID-19 pandemic, and a much greater risk of death among the patients diagnosed with COVID-19. This is in line with available evidence,⁷ and might suggest an increased risk of severe COVID-19 pneumonia / COVID-19-related death in patients with sarcoidosis; however, this type of inference is encumbered with a substantial risk of bias. The risk of COVID-19-related in-hospital death was probably increased in patients hospitalized for most diseases. So, without a proper control group, based on these observations, we cannot conclude that COVID-19-related death risk is increased by sarcoidosis. This leads us to an obvious limitation of the report by Bogdan et al,³ that is, the lack of a control group.

This limitation makes the interpretation of some other observations difficult. For example, the authors discuss the predominance of urban dwellers among the patients hospitalized for sarcoidosis. A simple comparison with a properly chosen control group(s) would help establish whether this difference is related to a greater incidence of sarcoidosis among the urban population or to other factors, such as access to health care or willingness of patients to be hospitalized.

Furthermore, the study raises some questions concerning health care organization, which

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became more important in light of the recent experience of the COVID-19 pandemic. The results suggest that most of the patients with sarcoidosis are diagnosed in a hospital, which is in accordance with usual medical practice in many countries, including Poland. This causes a significant burden both on the patients (increased stress level and decreased comfort associated with hospitalization) and the health care system. Based on purely medical grounds, most of the patients with suspected sarcoidosis can be diagnosed on an outpatient basis, with 1- or 2-day hospitalization for invasive procedures, which are often necessary (eg, lung/lymph node biopsy). Obviously, this is impossible in the current settings of health care in Poland, for organizational and economic reasons. Yet, data like these are an argument for discussions, possibly leading to some changes in the future.

To sum up, we welcome another publication on sarcoidosis based on data from a national registry. It brings up interesting results which also raise some questions for further analyses. These future studies based on registry data could be further expanded. For instance, inclusion of cases of subsequent hospitalizations/death certificate data into an analysis could bring additional observational information on the disease trajectory, and inclusion of proper control groups could decrease the risk of bias that might hamper the interpretation of the results.

ARTICLE INFORMATION

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CONFLICT OF INTEREST None declared.

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