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Letter to Editor

Changes in the number and condition of patients admitting to the emergency department with abdominal pain during the COVID-19 pandemics: Single-center experience

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To the editor,

The 2019 novel coronavirus disease has brought various challenges to the management of patients in hospitals. Since the first case of coronavirus disease 2019 (COVID-19) was reported in Poland, the Polish Council of Ministers has issued a series of restrictive measures to limit the spread of the contagion including limiting the hospitals’ activity.

The aim of our study was to analyze the number and condition of patients reporting abdominal pain (AP) within specific surgical disease groups during the 3-month period of the initial exacerbations related to the COVID-19 pandemic in Emergency Department (ED) in one center in Poland from March to May 2020. Moreover, the purpose of this work was to determine whether the incidence and distribution of certain diagnoses were different than in the regular epidemiological situation in the same period one year prior.

The study protocol was approved by the Commission of Bioethics at Wroclaw Medical University (KB-79/2021).

We retrospectively investigated the condition of 824 patients who were admitted to the ED with AP symptoms from 1 March to 31 May 2019 and 571 patients in the analogous period in 2020. Patient data was assembled from the ED medical records in University Hospital in Wroclaw, Poland.

The population of patients in 2019 and 2020 was characterized in Table 1. AP was divided into four categories: acute AP (AAP) lasting up to five days, chronic AP (CAP) lasting over 90 days, nonspecific AP (NAP) lasting 5–90 days and patients with unknown AP duration.1,2 The patient sample was classified into eight different diagnostic groups (Fig. 1).

The results show undeniable decrease in the admissions of patients presenting to the ED with AP as the main complaint from March to May 2019 in comparison to the same period in 2020. This supports the current concerns that the public may refrain from seeking care for serious conditions due to a fear of COVID-19 exposure in healthcare facilities. Despite the decline, it was visible that distribution of patients with AAP, CAP, NAP remained similar to that in 2019. A significant change in triage was noticed, as more patients in 2020 were marked with a red tag, implicating that the condition of some admitted patients was worse than in 2019 (Table 1). It should be noted that this was the only parameter indicating deterioration of the patients’ conditions. The analysis of laboratory parameters within individual diagnostic groups did not show significant changes (Supplementary materials).

Due to a number of social-distancing measures, we could expect a reduction in injuries associated with outdoor activities. However, a decreased incidence of major diagnoses, such as acute appendicitis should occur at a similar rate in different periods. Although, many studies have noted a significant decline in emergency admissions.3–5 This suggests that patients at admission would present worse conditions than those in the previous year, which our research contradicts.

In conclusion, the COVID-19 outbreak shows better commu-
tion between the government and society should be carried out. Public health services must ensure safety and encourage patients to continue using health services.

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Appendix A. Supplementary data
Supplementary data to this article can be found online at https://doi.org/10.1016/j.asjsur.2021.06.006.

References
1. Gans SL, Pols MA, Stoker J, Boermeester MA. Guideline for the diagnostic pathway in patients with acute abdominal pain. Dig Surg. 2015;32(1):23–31. https://doi.org/10.1159/000371563.
2. MSD Manual, Gotfried J. Chronic abdominal pain and recurring abdominal pain, 10.10.2020 https://www.msdmanuals.com/home/digestive-disorders/symptoms-of-digestive-disorders/chronic-abdominal-pain-and-recurring-abdominal-pain; Mar 2020.
3. Franchini S, Spessot M, Landoni G, et al. Stranger months: how SARS-CoV-2, fear of contagion, and lockdown measures impacted attendance and clinical activity during February and March 2020 at an urban emergency department in Milan. Disaster Med Public Health Prep. 2020 Jul 27;1–10. https://doi.org/10.1017/dmp.2020.265.
4. Oseran AS, Nash D, Kim C, et al. Changes in hospital admissions for urgent conditions during COVID-19 pandemic. Am J Manag Care. 2020;26(8):327–328. https://doi.org/10.37765/ajmc.2020.43837.
5. Grandi G, Del Savio MC, Caroli M, et al. The impact of COVID-19 lockdown on admission to gynecological emergency departments: results from a multicenter Italian study. Int J Gynaecol Obstet. 2020;151(1). https://doi.org/10.1002/ijgo.13289.

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