

Gastrointestinal symptoms as the first, atypical indication of severe acute respiratory syndrome coronavirus 2 infection

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As of March 28, 2020, over 170 patients with coronavirus disease 2019 (COVID-19) are treated in the Gromkowski Regional Specialist Hospital, Wrocław, Poland. Most patients present with typical symptoms, that is, cough, fever, or dyspnea.¹ However, unusual manifestations of the disease are increasingly observed.

A generally healthy 66-year-old woman returned to Poland by bus on February 29, 2020, after a 2-week stay at her friends' house in Rome, Italy. She did not recall any contact with a person infected with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) or with any people having respiratory symptoms. On March 7, 2020, the patient experienced diffuse abdominal and back pain, loss of appetite and taste, and nausea. The symptoms were not accompanied by diarrhea or fever. Back pain subsided, but pain in the right hypochondrium intensified and other gastric symptoms persisted, so the patient appeared in the emergency department on March 13, 2020. Laboratory tests yielded the following results: white blood cell (WBC) count, $10.1 \times 10^3/\mu\text{l}$; hemoglobin, 11.9 g/dl; platelets, $245 \times 10^3/\mu\text{l}$; and C-reactive protein (CRP), 29 mg/l. The heart and lungs were normal on auscultation. A surgeon did not find any peritoneal symptoms or other abdominal abnormalities. However, contrast-enhanced computed tomography of the abdomen and the lower part of the chest was performed and interstitial consolidations in the lower lobes of both lungs were detected (FIGURE 1A).

Due to suspicion of SARS-CoV-2 infection, the patient was transferred to the department of infectious diseases on March 15, 2020. On admission, she had no fever nor dyspnea (oxygen saturation, 94%), but mild dry cough appeared. A nasopharyngeal swab specimen was

obtained to test for SARS-CoV-2, and the result was positive. Laboratory values on admission were as follows: WBC, $11.33 \times 10^3/\mu\text{l}$; hemoglobin, 11.7 g/dl; platelets, $302 \times 10^3/\mu\text{l}$; CRP, 150 mg/l (Supplementary material, Table S1); total bilirubin, 0.4 mg/dl; alanine aminotransferase, 17.9 U/l; aspartate aminotransferase, 26.8 U/l; alkaline phosphatase, 82 U/l; lactate dehydrogenase, 442 U/l; and creatinine, 0.73 mg/dl. The rapid influenza diagnostic test result was negative, and chest X-ray confirmed pneumonia (FIGURE 1B).

The patient was treated with oxygen therapy, 1 g of amoxicillin and clavulanic acid administered orally every 12 hours, 500 mg of azithromycin once a day, and 40 mg of drotaverine twice a day. During hospitalization, abdominal pain subsided, dry and paroxysmal cough intensified, and slight dyspnea appeared (oxygen saturation, 90%).

As the patient's condition deteriorated and progressive inflammatory lesions were seen on repeated chest X-ray (FIGURE 1C and 1D), experimental treatment, for which the patient gave

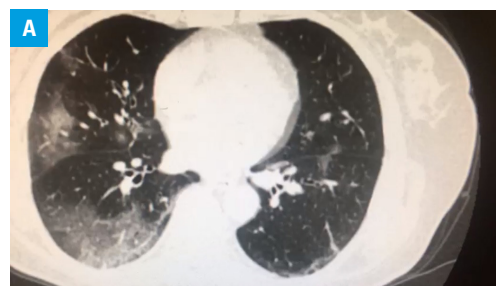


FIGURE 1 Imaging of a 66-year-old woman with coronavirus disease 2019: **A** – chest computed tomography performed on March 14, 2020, showing peripheral ground-glass opacity in both lungs

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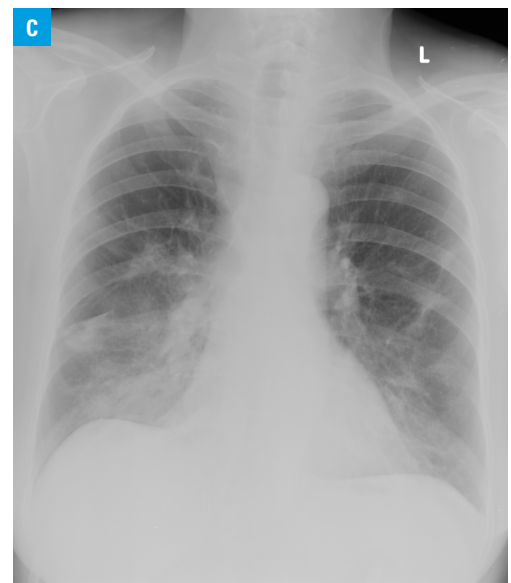
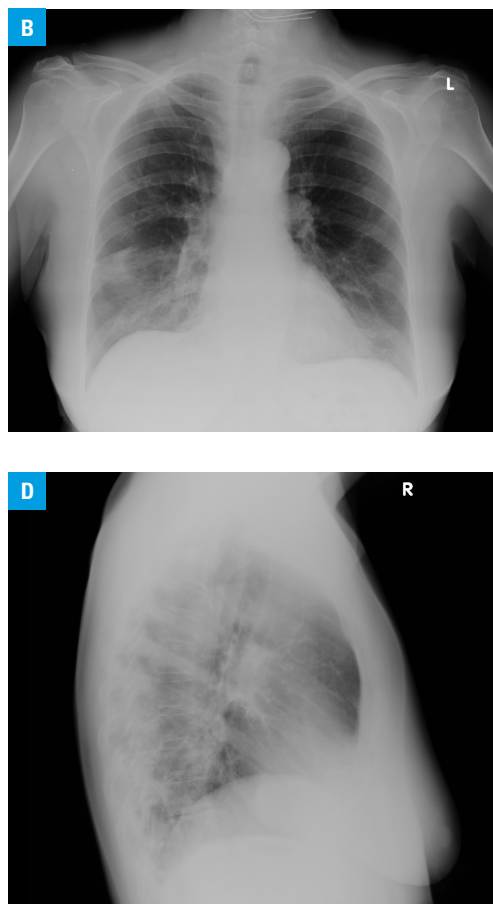


FIGURE 1 Imaging of a 66-year-old woman with coronavirus disease 2019: **B** – chest X-ray on admission to the department of infectious diseases on March 15, 2020, showing bilateral pneumonia affecting the peripheral parts of the lungs; **C, D** – chest X-ray performed after disease progression on March 20, 2020: posteroanterior view (**C**) and right lateral view (**D**)

consent, was implemented on March 21, 2020 (ethics committee decision no., KB/242/2020): lopinavir / ritonavir 500 mg twice a day with ribavirin 1000 mg/d (400 mg + 600 mg).^{2,3} The therapy was abandoned after 3 days due to drug intolerance manifested by diarrhea, nausea, vomiting, and abdominal pain. Symptoms disappeared quickly and the patient's general condition improved significantly: cough and dyspnea subsided, CRP and WBC values normalized, and inflammatory lesions in the lungs regressed.

On March 25–27, 2020, the patient was in good condition and did not report any significant symptoms. On March 29, 2020, another swab specimen was tested for SARS-CoV-2 and the test yielded a negative result. We planned to discharge the patient home in the next days.

The presented case is an example of an unusual course of SARS-CoV-2 infection, initially masked by gastrointestinal symptoms. Clinical (cough, dyspnea) and radiologic (interstitial consolidations in the peripheral parts of the lungs) symptoms appeared only on day 7, after the occurrence of abdominal pain. This, considering our patient's epidemiological history, prompted us to perform diagnostic tests for SARS-CoV-2. Diarrhea, nausea, and rarely vomiting and abdominal pain at disease onset (typically mild, 1 to 2 days prior to development of fever and dyspnea) were reported in the literature.⁴ This can be partially explained by the tropism of this particular coronavirus, which can actively infect the gastrointestinal tract and replicate there.⁵

It is difficult to assess the possible positive effect of antiviral treatment with lopinavir / ritonavir and ribavirin on the course of COVID-19 in our patient, as the therapy was used during a short time.

SUPPLEMENTARY MATERIAL

Supplementary material is available at www.mp.pl/paim.

ARTICLE INFORMATION

CONFLICT OF INTEREST None declared.

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