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Gastrointestinal symptoms as the first, atypical indication of SARS-CoV-2 infection

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As of 28 March 2020, over 170 patients with coronavirus disease 2019 (COVID-19) are treated in Gromkowski Regional Specialist Hospital. Most patients present typical symptoms -

cough, fever or dyspnea [1]. However, we are increasingly observing unusual manifestations of the disease.

A 66-year-old woman, generally healthy, after a 2-week-long stay at friends' house in Italy (Rome) returned to Poland by bus on 29.02.2019. She did not recall any contact with a person infected with SARS-CoV-2 or with any people presenting respiratory symptoms. On 07.03.2020 the patient experienced diffused abdominal and back pain, loss of appetite, taste and nausea, without diarrhea and fever. Due to the intensification of abdominal pain in the right hypochondrium (back pain subsided) and persistence of other gastric symptoms, on 13.03.2020 the patient appeared in the Emergency Department. Laboratory tests revealed: white blood cells (WBC) $10.1 \cdot 10^3/\mu\text{L}$, hemoglobin (HGB) 11.9 g/dL, platelets (PLT) $245 \cdot 10^3/\mu\text{L}$, c-reactive protein (CRP) 29 mg/l. In physical examination, there were no heart and lungs auscultation abnormalities. The surgeon did not find peritoneal symptoms or other abdominal pathologies, but he ordered abdominal computed tomography (CT) with contrast, which also covered the lower part of the chest. The CT revealed the presence of interstitial consolidations in lower lobes in both lungs (Fig. 1A)

The patient, suspected of SARS-CoV-2, was transferred to the Infectious Diseases Ward on 15.03.2020. On admission she had no fever, dyspnea (saturation 94%); mild dry cough appeared. Nasopharynx swab was taken for SARS-CoV-2, the result was positive. On admission: WBC $11.33 \cdot 10^3/\mu\text{L}$, HGB 11.7 g/dL, PLT $302 \cdot 10^3/\mu\text{L}$, CRP 150 mg/L (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, creatinine 0.73 mg/dL Rapid influenza test was negative, chest radiograph confirmed pneumonia. (Fig. 1B).

The treatment included oxygen therapy, oral amoxicillin and clavulanic acid 1g every 12h, azithromycin 500 mg once a day, drotaverine 40 mg twice a day. During hospitalization the change in clinical picture was observed: abdominal pain subsided, dry and paroxysmal cough increased, slight dyspnea appeared (saturation 90%).

Due to the deterioration of the patient's condition and progression of inflammatory changes in the control chest radiograph (Fig. 1C, Fig 1D) on 21.03.2020 experimental treatment, to which the patient agreed, was implemented (KB/242/2020): lopinavir/ritonavir 500 mg twice a day with ribavirin 1000 mg per day (400 + 600 mg) [2,3]. The therapy was abandoned after 3 days because of drug intolerance: diarrhea, nausea, vomiting, abdominal pain. Symptoms disappeared quickly and the patient's general condition improved significantly, cough and shortness of breath subsided, CRP and WBC normalized, inflammatory changes in the lungs regressed.

Currently, the patient feels fine, she does not report any significant symptoms. On 29.03.20 a control swab for SARS-CoV-2 was taken, which fell out negative. In the coming days, a discharge is planned.

The abovementioned case is an example of the unusual course of SARS-CoV-2 infection, initially masked by gastrointestinal symptoms. Clinical (cough, dyspnea) and radiological (interstitial consolidations in the peripheral parts of lungs) symptoms appeared only on the 7th day after the occurrence of abdominal pain, which in a patient with an epidemiological history prompted us to undertake diagnostics for SARS-CoV-2. The appearance of diarrhea and nausea, rarely vomiting and abdominal pain at onset of illness (typically mild, 1-2 days prior to development of fever and dyspnea) were described in the literature [4]. That may be partially explained by the gastrointestinal tract tropism of this coronavirus (it can actively infect and replicate) [5].

It is difficult to assess the possible positive effect of antiviral treatment lopinavir/ritonavir plus ribavirin on the course of COVID-19 in a patient due to the short duration of therapy.

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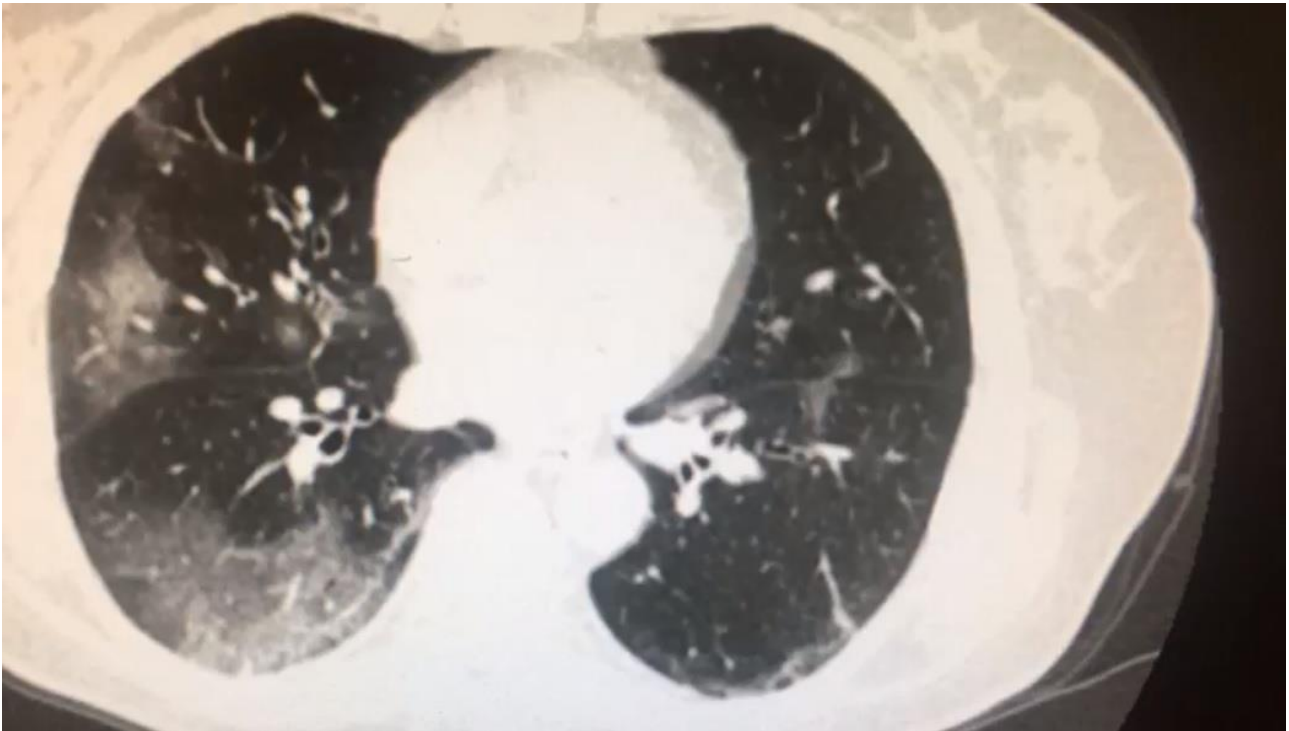


Fig. 1A Chest computed tomographic images, obtained on 14.03.2020. Bilateral, peripheral ground-glass opacity

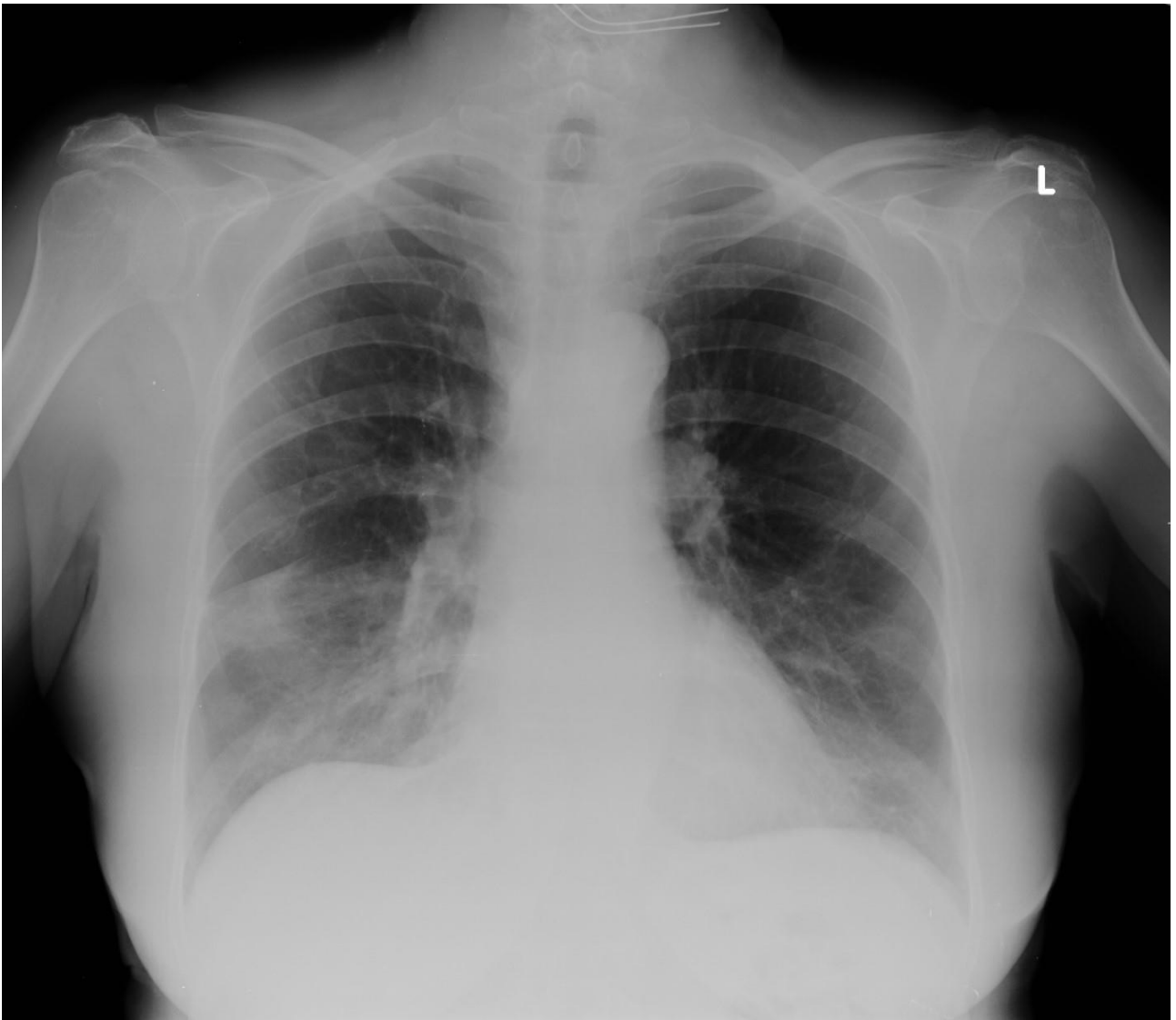


Fig. 1B Chest radiograph results at the admission of the patient on 15.03.2020. Bilateral peripheral distribution pneumonia.

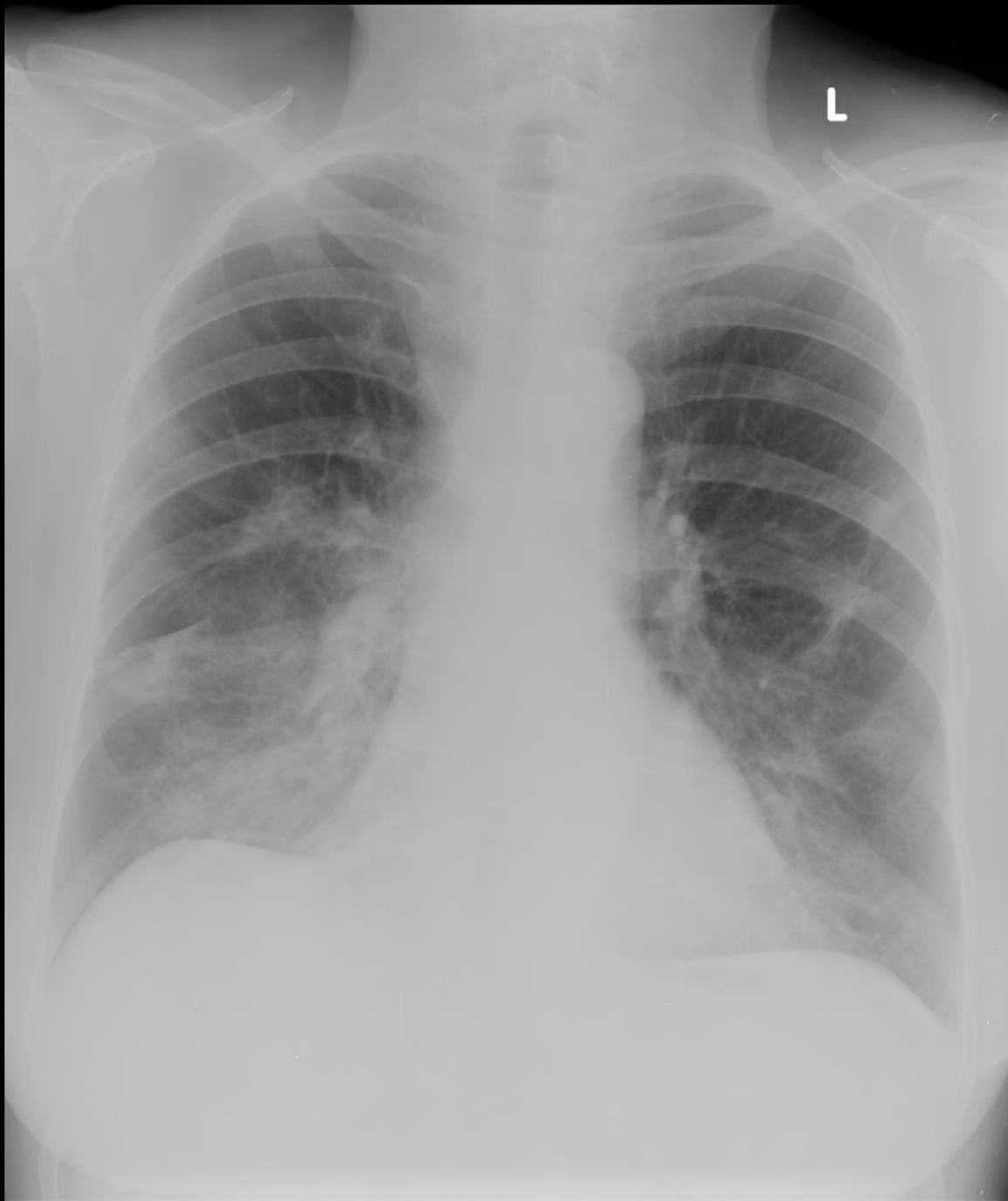


Fig. 1C Chest radiograph done after clinical progression 20.03.2020.



Fig 1D. Chest radiograph done after clinical progression, right side 20.03.2020.