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COVID-19 with abdominal symptoms and acute abdominal pain:

a guide to identification for general practice

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INTRODUCTION

The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2, previously known as 2019 new coronavirus [2019-nCoV]) appeared in Wuhan, China, in December 2019, and spread rapidly throughout China and other countries.[1] As of 29 March 2020, SARS-CoV-2 has resulted in a total of 634 835 cases of coronavirus disease 2019 (COVID-19, previously known as novel coronavirus pneumonia [NCP]) worldwide, of which 29 957 patients have died.[2] SARS-CoV-2 coronavirus has caused more deaths than SARS-CoV (774 deaths worldwide) and Middle East respiratory syndrome (MERS)-CoV (858 deaths worldwide), and has become the deadliest coronavirus ever.[3]

Several retrospective single-centre case series showed that the most common symptoms of the disease were fever, fatigue, cough, myalgia, and dyspnoea.[4–6] It is worth noting that a considerable number of patients have gastrointestinal and abdominal symptoms such as nausea, vomiting, abdominal pain, and diarrhoea.[4–7] Wang *et al*[4] reported that, among 138 patients, 10.1% of patients initially presented with diarrhoea and nausea. In addition, in this report, one patient was admitted to the surgical ward because of abdominal symptoms and was subsequently diagnosed with COVID-19 after infecting at least 10 medical workers and four hospitalised patients. All of these infected persons presented with abdominal symptoms prior to development of fever and dyspnoea.[4]

A descriptive, cross-sectional, multicentre study by Pan *et al*[7] showed that 103 (50.5%) of 204 patients with COVID-19 were admitted to hospital with gastrointestinal symptoms, including loss of appetite (78.6%), diarrhoea (34%), vomiting (3.9%), and abdominal pain (1.9%). It can be seen that some patients initially exhibit gastrointestinal and abdominal symptoms rather than fever and dyspnoea at the onset of COVID-19, posing a great challenge for rapid identification of COVID-19.

STRATEGIES FOR TREATING PATIENTS WITH ABDOMINAL PAIN DURING THE EPIDEMIC

Acute abdominal pain is a common clinical manifestation in medical institutions, often accompanied by nausea, vomiting, diarrhoea, and fever, which is a difficult clinical problem for emergency physicians and surgeons. In a special epidemic situation such as this, the differential diagnosis of acute abdominal pain has become more complicated. As mentioned earlier, abdominal symptoms can be the initial clinical presentation of patients with COVID-19, so clinicians should be especially careful not to admit patients with COVID-19 as patients with acute abdominal pain to a general ward without strict isolation measures. Currently, SARS-CoV-2 is raging in many regions of the world. Therefore, the timely and effective identification of patients with COVID-19 with abdominal symptoms will help prevent spread of the virus.

This article proposes an effective coping strategy for patients with acute abdominal pain during the SARS-CoV-2 epidemic. It has the following four aspects:

First, clinicians should find out the patient's medical history in detail, especially the epidemiological history.

It is known that the incubation period of COVID-19 ranges from 1–14 days, most commonly from 3–7 days. Therefore, it is important to ask whether there is a history of exposure to suspected or confirmed cases of COVID-19 within 2 weeks for each patient with abdominal symptoms.

Second, clinicians, especially surgeons, should be familiar with not only the common symptoms of COVID-19, but also the gastrointestinal and abdominal symptoms of the disease, so as to avoid misdiagnosing COVID-19 as an acute abdomen and admitting patients to the general surgical ward, thus helping reduce

infections among inpatients and medical personnel.

Third, patients should be given a comprehensive physical examination, especially an abdominal physical examination. For surgical acute abdominal pain, specific pain sites can often be found; there are even signs of peritonitis such as abdominal tenderness, rebound tenderness, and abdominal muscular defence.

Finally, patients should be given reasonable auxiliary examination methods, such as a blood test, virus pathogen detection, and imaging. In the early stages of COVID-19, white blood cell and neutrophil counts do not increase, while lymphocyte counts decrease in most patients.[6,8]

Consequently, the routine blood test is one of the important auxiliary methods to predict COVID-19. Viral nucleic acid testing is essential for the diagnosis of COVID-19, but it often requires the collection of multiple samples at different points in time because of the presence of false negative results. In emergency situations, it is difficult to rely on viral nucleic acid testing to identify COVID-19 quickly. Hence, CT-scans of the lungs should be used to screen for COVID-19 in emergency situations, especially before emergency surgery. Wang *et al*[4] have reported that lung CT findings of almost all patients with COVID-19 show ground-glass opacity during the disease progression.

Thus, lung CT is also one of the important methods for screening COVID-19, but the final confirmation of COVID-19 diagnosis still depends on viral nucleic acid testing. If the patient's condition is stable, a CT-scan of the abdomen combined with lungs is recommended for all patients with acute abdominal pain during the epidemic.

CONCLUSION

In conclusion, during the current SARS-CoV-2 epidemic, clinicians should be familiar with the clinical features of COVID-19, especially the gastrointestinal and abdominal symptoms of the disease.

For all patients with acute abdominal pain, detailed inquiries about the epidemiological history should be made, a comprehensive physical examination should be conducted, and some reasonable auxiliary examination methods should be adopted to diagnose COVID-19 quickly, so as to take timely preventive measures to avoid the spread of the virus.

Competing interests

The authors have declared no competing interests.

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