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**Atypical presentation of COVID-19 with abdominal pain and no respiratory symptoms: a case series**

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**Singapore Med J 2021, 1–6**

<https://doi.org/10.11622/smedj.2021196>

Published ahead of print: 8 November 2021

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## **INTRODUCTION**

As of 26<sup>th</sup> May 2021, the global tally for coronavirus disease 2019 (COVID-19) has crossed the 168 million mark, with more than 61,000 COVID-19 cases reported in Singapore. Overseas data suggested that patients with Coronavirus Disease 2019 (COVID-19) may present with abdominal symptoms, such as nausea, vomiting, and diarrhoea.<sup>(1-4)</sup> We report two atypical presentations of COVID-19, presenting with only severe abdominal pain mimicking surgical emergencies, without fever or respiratory symptoms.

## **CASE DESCRIPTION**

### **Case 1**

A 42-year-old-Malay female presented to a private hospital on 5<sup>th</sup> February 2020 with three days of low-grade fevers and lower abdominal pain, described as being akin to labour pains. There was no nausea, vomiting or diarrhoea, nor other focal infective symptoms. She had visited Changi Airport and the Singapore Zoo in late January 2020. She reported no travel to China nor contact with returning travellers from China or cases of COVID-19.

On arrival at the emergency department, she was febrile at 38C but vital signs were otherwise stable. There was mild lower abdominal tenderness. Initial clinical suspicions were that of pancreatitis and pelvic inflammatory disease. Chest radiography (CXR) was normal. Her laboratory investigations were significant for leukopenia (normal range 4.0-9.6) and mildly raised amylase at 131 U/L (normal range 35-120). Otherwise, C-reactive protein (CRP) and urine dipstick were normal. Computed tomography (CT) of the abdomen and pelvis was normal, but showed posterior bibasal subpleural consolidation. The nasopharyngeal swab done at the private hospital returned positive for Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2) on real-time reverse-transcription–polymerase-chain-reaction (RT-PCR) assays on 6<sup>th</sup> February. She was eventually profiled as the 32<sup>nd</sup> confirmed case of COVID-19

in Singapore. She was then transferred to National Centre for Infectious Diseases (NCID) on 7<sup>th</sup> February. Her fever lysed on day 3 of admission (7<sup>th</sup> February), and a repeat CXR on day 6 of admission (10<sup>th</sup> February) showed right lower zone changes. On day 15 of admission (19<sup>th</sup> February), there was complete resolution of her symptoms and fever. She was discharged home after two consecutive nasopharyngeal swabs for SARS-CoV-2 returned negative.

## **Case 2**

A 68-year-old Chinese woman presented to the hospital with a two-week history of constant dull aching epigastric pain. There was associated nausea but no vomiting, diarrhoea or early satiety. She had no fever or respiratory symptoms. There was no contact with known COVID-19 cases or clusters. She recently travelled to Jakarta, Indonesia, from 11<sup>th</sup> to 14<sup>th</sup> February 2020. Her symptoms started 12 days after her return to Singapore.

On examination, she was afebrile with stable vital signs, and epigastric tenderness without guarding was noted. Her chest was clear to auscultation. Complete blood count including differential was normal. Serum amylase was normal (83 U/L) and liver function tests were only significant for a mildly elevated alkaline phosphatase level of 124 U/L (normal range 40-120). CXR and abdominal X-ray were unremarkable (Figure 3).

Esophagogastroduodenoscopy (EGD) performed on the second day of admission revealed only mild antral gastritis. In view of persistent epigastric pain, a contrasted computed tomography (CT) scan of the abdomen and pelvis was performed. No intraabdominal pathology was detected, however patchy ground glass opacities were incidentally noted in bilateral lung fields (Figure 4) which were not apparent on her plain films. In view of the pulmonary findings, she was transferred to a single isolation room and two nasopharyngeal swabs for SARS-CoV-2 PCR were collected 24 hours apart. The first SARS-CoV-2 PCR was negative, however the

second SARS-CoV-2 PCR returned positive. She remained afebrile with no respiratory symptoms throughout admission.

## **DISCUSSION**

The diagnosis of SARS-CoV-2 infection has been complicated by the diversity in (or sometimes absence of) symptoms, imaging findings and in the severity of disease at time of presentation.<sup>(1)</sup> In our local experience, the most common symptoms reported were fever (72%), cough (83%), and sore throat (61%).<sup>(5)</sup> These findings echo the initial clinical characteristics reported in China, where fever and cough were the predominant symptoms, with gastrointestinal symptoms featuring less commonly.<sup>(1)</sup> One early study from Wuhan with 138 patients with COVID-19 reported three patients who presented with abdominal pain, but it was unclear if this was their only symptom. One of these patients had a delayed diagnosis, and was admitted to the surgical department, resulting in ten healthcare workers and four other patients in the same ward being infected.<sup>(6)</sup> There are other published case reports and retrospective study of SARS-CoV-2-associated GI symptoms in different countries.<sup>(7-9)</sup> Both of our cases described above were admitted with abdominal pain without any upper respiratory symptoms, diarrhoea and no documented fever, although one reported subjective fevers.

In a local study, six of 18 COVID-19 cases (33%) had an abnormal chest radiograph finding or lung crepitations while no radiologic abnormalities were noted on initial presentation.<sup>(5)</sup> In China, 86.2 % of CT scans performed at the time of admission revealed abnormalities. The most common patterns on chest CT were ground-glass opacities (56.4%) and bilateral patchy shadowing (51.8%),<sup>(6)</sup> which are mostly peripheral and basal.<sup>(10)</sup> In both our patients CT scans showed bilateral basal, and peripheral patchy shadowing with ground glass opacities.

Our second patient was initially sent to a general (non-isolation) ward with four other patients without isolation due to her atypical presentation. The CT changes of her lungs were

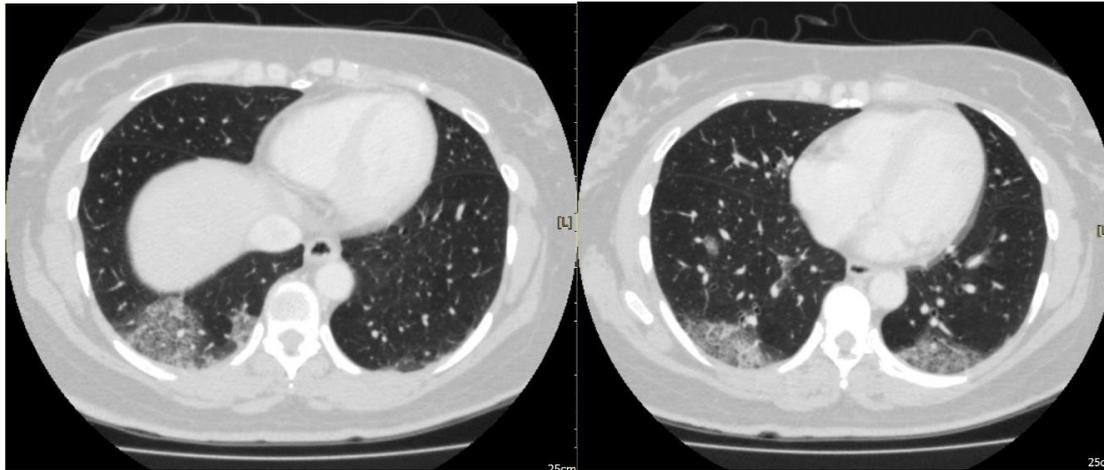
incidentally noted and acted upon by her managing clinicians, leading to the patient's prompt isolation and contact tracing. The other patients in the five-bed cubicle had been exposed but were not infected. <sup>(11)</sup> The exposed healthcare workers practised self and temperature monitoring which had been in place since the start of the COVID-19 outbreak in Singapore and none of these healthcare workers were tested positive subsequently.

COVID-19 may present atypically with abdominal, or incidental radiographic findings, and clinicians should consider its possibility even in the absence of respiratory symptoms, as these carry important implications for diagnosis, infection control and public health actions.

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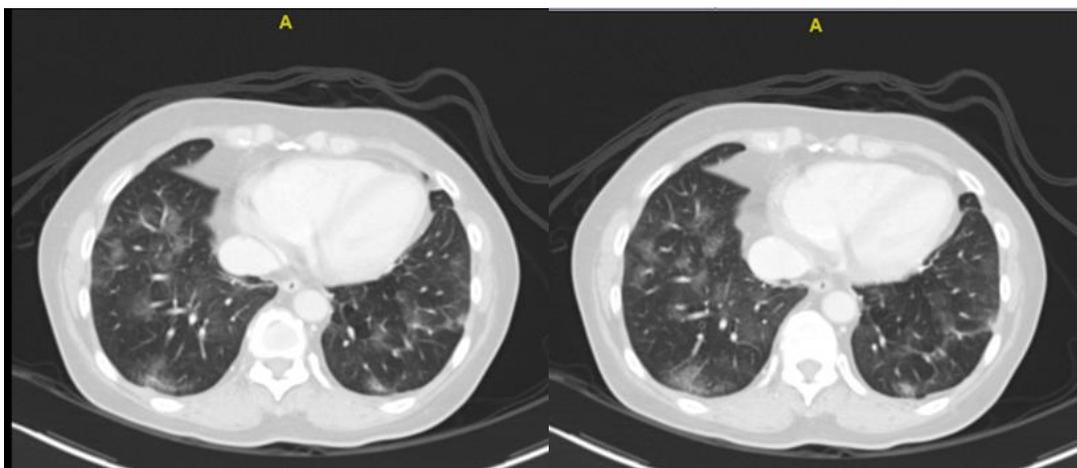
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**Figure 1.** Computed tomography scan showing bilateral ground glass opacities in lung fields (Case 1)



**Figure 2.** Chest and abdominal radiographs on admission (Case 2)



**Figure 3.** Computed tomography scan showing bilateral ground glass opacities in lung fields (Case 2)