

Case Report

Extrapulmonary manifestations of COVID-19 patient presenting with abdominal pain and skin lesions as primary symptoms

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Received: 08 September 2020

Revised: 17 December 2020

Accepted: 24 December 2020

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ABSTRACT

COVID-19 is basically a respiratory disease and pulmonary manifestations constitute main presentations of the disease however in some patients SARS-CoV-2 infection is not limited to the respiratory system and other organs can also be affected and may be the primary manifestations of the disease. Renal dysfunction, gastrointestinal complications, liver dysfunction, cardiac manifestations, neurological abnormalities, haematological and thrombotic manifestations are among the reported extrapulmonary features. Given that ACE2, the entry receptor for the causative coronavirus SARS-CoV-2, is expressed in multiple extrapulmonary tissues, direct viral tissue damage is a plausible mechanism of injury. In addition, endothelial damage and thrombo-inflammation, dysregulation of immune responses, and maladaptation of ACE2-related pathways might all contribute to these extrapulmonary manifestations of COVID-19. Considering the broad spectrum of clinical manifestations and the increasing worldwide burden of the disease, there is an urgent need to evaluate patients presenting with abdominal symptoms and skin lesions even without respiratory complaints to increase the diagnostic accuracy to detect COVID-19 and its complications in early stage. Our case report documents a patient who presented with abdominal symptoms and skin lesions whose RT-PCR was positive for COVID-19. It remains to be seen whether these patients will eventually develop respiratory symptoms. Further studies are needed to elaborate and confirm the causative relationship between SARS-CoV-2 and the reported extrapulmonary manifestations of COVID-19.

Keywords: COVID-19, Abdominal pain, Splenic infarction, Skin rashes


INTRODUCTION

SARS-CoV-2 manifestations in a symptomatic patient can be in the form of pneumonia, acute respiratory syndrome, and multiple organ dysfunction as well.¹ Renal complications, gastrointestinal dysfunctions, endocrine system disorders, myocardial dysfunction and arrhythmia, neurological dysfunctions, dermatological symptoms, haematological manifestations, and thrombo-inflammation are among the reported extrapulmonary complications. Moreover, the presence of coagulopathy, excessive and dysregulated immune responses, and autoimmunity by COVID-19 patients is considerable.²

The pathogenesis of infection entails the entry of the virus via receptors on cells, principally angiotensin-converting enzyme 2 receptors. Direct virus damage coupled with indirect effects of viral infection including thrombo-inflammation, dysfunction of the immune system, and dysregulation of the renin-angiotensin system leads to multiple organ failure.³ This review outlines the extrapulmonary organ-specific complications and their pathophysiology and epidemiology.

CASE REPORT

A 45-year-old female presented to the emergency department of SMIMER hospital complaining of



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Figure 1a shows an axial CT scan of the chest. A red box highlights a lesion in the left lung, which is the focus of the study.

DISCUSSION

The SARS-CoV-2 virus utilizes the angiotensin-converting enzyme 2 receptor for entry into the host cell. These receptors are profusely expressed on lung tissues and arterial and venous endothelial cells.⁶

International Surgery Journal | May 2021 | Vol 8 | Issue 5 Page 1598

routinely performed, and they are often incidental findings from chest CT scans that extend to the abdomen or in CECT abdomen. In the patients of severe COVID-19, coagulopathies are important detrimental factors that are invariably associated with poor outcomes. The hallmark coagulopathy abnormalities in COVID-19 are elevated prothrombin time, raised D-dimer level, raised IL-6 and these parameters were increased in our patients too.

Although the cutaneous manifestations of COVID-19 are infrequent, it is of great importance, as they may contribute to sooner and better diagnosis and management of the disease, even in asymptomatic or pauci symptomatic patients.⁸ This could be a valuable help for epidemiological control of the disease.⁹

Although COVID-19 is a prolonged, complicated, and sometimes fatal disease, most of the patients are expected to eventually recover. Our patient was immediately transferred to fully functional and equipped COVID-19 patient care facility and was kept on analgesics to reduce abdominal pain. Patient was given LMWH, aspirin and dabigatran to treat and prevent progression of thromboembolic events.

CONCLUSION

In the current pandemic, clinicians should be aware of abdominal symptoms, cutaneous manifestations and thrombotic disease as a complication of COVID-19 and clinician should be cautious and keep COVID-19 as differentials diagnosis when encountered with extrapulmonary manifestations to facilitate early diagnosis of SARS COV-2. Moreover, lung findings in COVID-19 patients may not correlate to respiratory symptoms.

Further studies should be carried out to elucidate the pathophysiological mechanisms of COVID-19-related extrapulmonary manifestations, and so that early preventive and therapeutic strategies can be developed to reduce morbidity and mortality before vital organ damage.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

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Cite this article as: Kumar A, Prasad D, Gahlot V. Extrapulmonary manifestations of COVID-19 patient presenting with abdominal pain and skin lesions as primary symptoms. Int Surg J 2021;8:1597-9.