

An extremely unusual case of covid-19 presenting with multiple extrapulmonary manifestations

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Abstract Corona virus disease 2019 (COVID-19) pandemic has adversely affected the whole world. Health care professionals are continuously trying to understand and cope up with this rapidly mutating virus having variable manifestations and unpredictable outcomes. We report an unusual case of a young male who was admitted in dermatology ward with mucocutaneous rash but during hospitalization developed acute abdomen and acute chest pain. Evaluation of acute abdomen and chest pain did not reveal any underlying cause and meanwhile he turned out to be COVID-19 positive. He was managed accordingly and all his symptoms got settled on recovery from COVID-19 illness.

Key words

COVID-19, SARS-COV-2, pandemic, acute abdomen, acute chest pain, erythema multiforme.

Introduction

Severe acute respiratory syndrome coronavirus 2 (SARS-COV-2) is the novel corona virus that causes COVID-19.¹ It typically presents with respiratory symptoms and febrile illness. However, with every passing day, the spectrum of reported extrapulmonary and atypical presentations is extending. Non respiratory symptoms may be related to skin, eye, gastroenterology, nephrology, or cardiovascular system.^{2,3} Cutaneous manifestations most commonly reported include morbilliform rash, urticaria, vesicular eruptions, acral lesions, and livedoid eruptions.^{4,5} Erythema multiforme (EM) is a distinct skin rash that has recently been reported in association with COVID-19 illness.⁶ EM is a cell mediated hypersensitivity reaction involving skin and sometimes mucous membranes caused

by infections, most commonly herpes simplex virus and mycoplasma pneumonia, or drugs. It is characterized by polymorphous lesions including macules, papules and typical targets with special predilection for acral areas. Skin lesions typically involve acral areas bilaterally and symmetrically. Previously it was thought to be part of a clinical spectrum of diseases involving EM minor, EM major, Steven Johnson syndrome (SJS) and Toxic epidermal necrolysis (TEN) but now it is believed that EM is a distinct entity different from SJS/TEN spectrum with its minimal mucosal involvement and <10% of body surface area involvement.^{6,7} Acute abdomen and acute chest pain are rare but potentially life threatening acute non respiratory illness that can also be presenting manifestations of COVID-19.^{8,9}

We report an extremely unusual case of COVID-19 who presented with EM and was managed accordingly in dermatology ward for few days until he developed symptoms of acute abdomen and acute chest pain one after the other. During work up, his PCR turned out to be positive for

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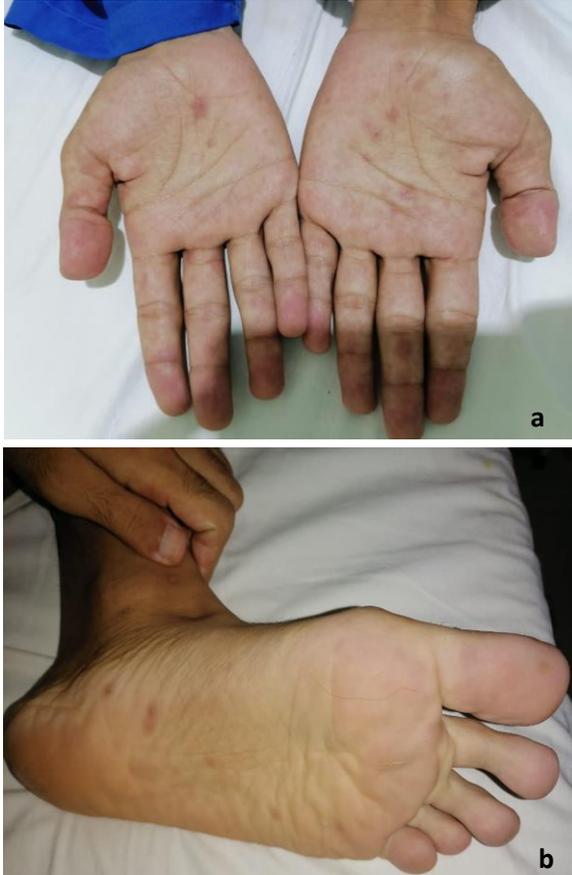


Figure 1 Discrete erythematous maculo-vesiculo-papular rash on palms and soles (resolving phase).

COVID-19. He was then treated in isolation ward and recovered completely within a week time.

Case report

A 24-year-old male presented in emergency department with complaints of multiple painful oral ulcers and skin rash for 03 days. Patient was unable to take orally due to severe oral mucosal involvement. He had an episode of fever and sore throat 05 days before the appearance of skin/ mucosal lesions, which settled after taking paracetamol and a cough syrup. Fever was present only for one day. On examination he had hemorrhagic, crusted erosions involving labial and buccal mucosa along with multiple target lesions involving hands and forearms (**Figure 1**). Rest of his skin and mucosal surfaces were normal. On admission he was afebrile and other



Figure 2 Resolving erythematous-vesicular lesions on lip and buccal mucosa.

vital signs were also in normal range. His base line investigations including complete blood count, liver function tests, urea creatinine and electrolytes, random and fasting blood sugar levels, X-ray chest and urine analysis were all within normal limits. His treatment was started which included Intravenous hydrocortisone 100 mg thrice daily, injection 5% dextrose water 1000ml intravenous twice daily, clobetasole cream mixed with white soft paraffin to be applied on skin lesions twice a day, miconazole oral gel twice a day and antiseptic mouth washes. On the 5th day of his admission, he developed severe epigastric pain radiating to back. Pain settled partially after giving injection omeprazole 40 mg IV stat. His ultrasound abdomen showed minimal pelvic ascites with rest of the scan showing no pathology. Same day, in the evening he developed high grade

fever with acute chest pain which was constant with no relieving factors. His blood pressure and blood sugar levels were also raised. His ECG, TROP T, TROP I, ETT and echocardiography was done which showed no abnormality. His total leukocyte count (TLC) was raised to $19.2 \times 10^9/L$. C-reactive protein, serum ferritin and alkaline aminotransferases were also raised. Slide for malarial parasite and dengue NS1 antigen was negative. His blood and urine cultures were sent and injection ceftriaxone 1 gram intravenous 12 hourly was started and injection hydrocortisone was stopped due to the risk of impending systemic infection. For next two days patient continued to have severe chest and abdominal pain despite getting proper analgesia and omeprazole. His HRCT thorax and abdomen was done which showed bilateral pulmonary infiltrates suspected to be due to community acquired pneumonia. In the meantime, PCR for COVID-19 turned out to be positive. Patient was immediately shifted to COVID-19 isolation ward and treatment for COVID-19 was started. Dermatology ward in which patient remained admitted was sterilized and fumigated and all contacts were isolated and tested for COVID-19. Fortunately, all contacts came out negative and remained symptom free. The treatment he received included injection piperacillin tazobactam 4.5 grams 8 hourly, injection moxifloxacin 400 mg once a day and injection dexamethasone 12 mg once a day. Patient recovered completely and was discharged when his clinical condition improved and PCR for COVID was negative.

Discussion

Since the outbreak of COVID 19, a myriad of cutaneous as well as systemic manifestations have been reported in association with this illness. Mostly these extra pulmonary presentations are reported in isolation.³⁻⁵ In our case, three unusual non- respiratory symptoms

(EM, acute abdomen and acute chest pain) were observed, one after the other, in the same patient during the course of COVID-19 illness, in absence of any significant respiratory complaints.

EM being an acute, self-limiting cutaneous and/or mucosal disease associated, mostly with viral infections, was probably the early presentation of COVID-19 in our case and can also be added to the list of viruses causing EM like rashes.^{6,7} As recently reported, COVID-19 patients may present with acute abdomen as an initial manifestation of illness.⁸ Therefore, all patients presenting with acute abdominal pain and fever should be assessed thoroughly along with application of personal protective equipments (PPEs) until proved otherwise. In our case after thorough evaluation we could not find out any cause of acute abdomen other than COVID-19 infection. Acute chest pain is another atypical initial presentation of COVID-19 disease that may be caused by acute coronary syndrome, myocarditis, pericarditis and pleurisy.^{9,10} In our patient, no cardiac cause of acute chest pain was identified and pleurisy was considered to be the possible cause of his acute chest symptom as a diagnosis of exclusion after thorough clinical and laboratory evaluation as there were bilateral infiltrates in lungs on HRCT contrast of thorax.¹⁰

We evaluated our patient thoroughly by involving dermatologists, cardiologist, gastroenterologist, pulmonologist, surgeon and emergency medicine specialist for his cutaneous and systemic symptoms which developed one after the other, but were unable to find any other underlying cause except COVID 19 illness. EM, acute abdomen and acute chest pain have already been reported as manifestations of COVID-19 affecting different individuals but, to the best of our knowledge, this is the first case in

which these atypical presentations occurred together in the same patient.^{6,8,9}

The purpose of reporting this case is threefold; firstly to report the first ever case of COVID-19 presenting with EM, acute abdomen and acute chest pain simultaneously. Secondly, to highlight the atypical cutaneous and systemic manifestations of COVID-19 to help enable healthcare professionals to take timely measures in terms of isolation, diagnosis and treatment of the patients. Thirdly, to reinforce the need for the involvement of multidisciplinary teams, depending upon the clinical manifestations of each individual patient for better health outcomes.

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